<<IP 路由技术基础>>

图书基本信息

书名: <<IP 路由技术基础>>

13位ISBN编号: 9787302034568

10位ISBN编号:7302034567

出版时间:1999-04

出版时间:清华大学出版社

作者:(美)赖特

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

<<IP 路由技术基础>>

内容概要

内容简介本书为介绍IP路由技术(即Interet协议路由技术)的入门资料。此书从网络的拓扑结构和路由器的配置开始介绍深入地分析了IP路由技术:包括路由的距离、终止网络、子网、VLSM、缺省路由、IP的故障排除、在不同的介质中构架IP和IP地址的表示。本书条理清楚内容充实,可作为深入了解网络的入门资料。

<<IP 路由技术基础>>

书籍目录

Contents

Introduction xxiii

Chapter 1 Topology and Router Configurations

Understanding the Role of Routers in

Networks

The Router Interface

Network Layer Addresses

Datagrams

MAC Addresses

IP Address Formats

Network Reference Models

Understanding Topology and Router

Configurations

RouterA's Configuration

RouterB's Configuration

RouterC's Configuration

Understanding What a Router Does

Sample Network

How a Router Knows What to Do

Choosing Your Routing Protocol

Understanding How Forwarding Decisions

Are Made

Performing Longest Match Lookups

Forwarding Decisions for Multipoint

Interfaces

End Systems Sending Packets to Other Subnets

Summary

Chapter 2 Routing Metrics and Distances

Primary Activities of Convergence

Viewing the Invalid Timers in a Routing Table

Viewing an Expired Invalid Timer in a Routing

Table

Router Still Uses a Path

Understanding Convergence

Parallel Paths

The Effect of Parallel Paths on

Convergence

Looking at Parallel Paths in a Routing

Table

Convergence in Action

The Routing Table After Convergence

Step-by-Step Review of Convergence

Debug Messages and Reality

When Holddown Is Initiated

Understanding Parallel Paths and Their Effect on

<<IP 路由技术基础>>

Packet Forwarding

Process Switching Versus Fast Switching

Configuring Process Switching

Configuring Fast Switching

Understanding the Role of Split Horizon

Routing Advertisements with Split Horizon

Enabled

Routing Advertisements with Split Horizon

Disabled

Routing Loops Caused by Disabling Split

Horizon

Loss of a Connected Route Versus a Dynamic

Route

Split Horizon's Effect on Multipoint WAN

Interfaces

Using Subinterfaces to Avoid Problems Caused by

Split Horizon

Poison Reverse and Triggered Updates

IGRP Routing Metrics (Variables) and Cisco

Administrative Distances

IGRP Metrics (Variables)

Administrative Distances

Running Multiple Routing Protocols

Concurrently

Altering IGRP's Bandwidth and Delay

Variables

Problems with Manipulating the Delay

Variable

Understanding the Effects of Manipulating the

Delay Variable

Vnderstanding the Effects of Manipulating the

Bandwidth Variable

Calculating IGRP Metrics

Summary

Chapter 3 Discontiguous Networks, Summarization,

and Subnet 0

Introduction to Terminology

Discontiguous Networks Using RIP and

IGRP

Understanding How a Router Derives the Correct

Masks

Understanding Summarization (Summarized

Routes)

Understanding Subnet 0

Summarized Routes Versus Subnet 0

Summarization Caused by Discontiguous

Networks in Action

<<IP 路由技术基础>>

RIP Cannot Reach Discontiguous Subnets

Discontiguous Networks, Subnet 0, and

Summarization Using IGRP

Discontiguous Networks Using Two Routers

Discontiguous Networks Using Three

Routers

When Connectivity Is Possible

When Connectivity Is Not Possible

Alternating Paths for the First Ping

Using Other Routing Protocols

Using Summarization as a Tool

Summary

Chapter 4 Using IP Unnumbered and VLSM

Understanding IP Unnumbered

IP Unnumbered Causes Host Routes and Lost

Connectivity

Host Routes

Hosts Routes Using DDR

Configuring IP Unnumbered on Serial

Interfaces

RIP and IGRP Behave the Same

RIP with IP Unnumbered Configured

Properly

Displaying the Routes

Sending Routing Updates

Pinging the Interfaces

RIP with IP Unnumbered Configured

Improperly

Examples of Routing Updates

Host Route Problem

Lost Routes Problem

Using a Different Subnet Mask and a Different

Major Net

Understanding VLSM

VLSM Using RIP and IGRP

VLSM Experiment Using Two Routers

VLSM Experiment Using Three Routers

Cbrrectly Configuring VLSM Blocked

Routes

VLSM Summary

Summary

Chapter 5 Oefault Routing

Introduction to Default Routing

Gateway of Last Resort

Gateway of Last Resort for a Non-Local

Domain

Gateway of Last Resort Fails for a Local

<<IP 路由技术基础>>

Domain

Gateway of Last Resort Still Works When Links

Fail

Using IP Classless

In Review

Using Default and Static Routes in Complicated

Networks

Using Static Routes

Dealing with Too Much Default Routing

Information

Fixing a Default Gateway Loop

The 0.0.0.0 Default Route

RIP and 0.0.0.0

Using 0.0.0.0 with IGRP

What to Do Instead of Using 0.0.0.0 with

IGRP

Using End Systems with Multiple Local

Gateways

ICMP Router Discovery Protocol (IRDP) RFC

1256

End Systems Using RIP

Cisco's Hot Standby Router Protocol (HSRP)

Using Floating Static Routes

Summary

Chapter 6 IP Troubleshooting Scenarios

Developing a Troubleshooting Routine

Using a Troubleshooting Scenario

Checking the Available Routes

Tracing the Route

Using Extended Pings to Track Connectivity

Other Possible Problems

An ARP Problem

Validating End System Routing Tables

Summary

Chapter 7 Bridging IP Between Dissimilar Media

Translational Bridging

MSBVersusLSB

?Bit Swapping MAC Addresses

ARP Explained

Translating Bridges and ARP Frames

ARP in Action

Vendor-Specific Solutions to ARP

Static ARPs

Displaying the Parameters of the ARP.EXE

Command

Displaying the Current ARP Entries

How to Create a Static ARP Entry

<<IP 路由技术基础>>

and Display It

Deleting Static ARP Entries

Summary

Chapter 8 Hexadecimal and Binary Numbering and

IP Addressing

Binary Numbering Versus Decimal

Numbering

Hexadecimal Numbering Versus Decimal

Numbering

Introduction to the 32-B it IP Address

Classes of Addresses

Default Subnet Masks for Class A, B, C, and D

Addresses

Understanding Subnet Masks, Subnetting, and

Supernetting

Determining What Subnet Is Being Used

The Shorthand Subnet Mask Indicator

Introduction to Supernetting

Calculating Subnet and Host Combinations

Summary

AppendixA RFCs

How RFCs Work

RFCs Recommended for Further Study

RFC 2235: Hobbes' Internet Timeline RFC 2200: Internet Official Protocol

Standards

RFC 2151: A Primer on Internet and TCP/IP Tools

and Utilities

RFC 2101: IPv4 Address Behavior Today

RFC 2031: IETF-ISOC Relationship

RFC 2028: The Organizations Involved in the IETF

Standards Process

RFC 2027: IAB and IESG Selection, Confirmation,

and Recall Process: Operation of the Nominat-

ing and Recall Committees

RFC 2026: The Internet Standards Process:

Revision 3

RFC 2008: Implications of Various Address Alloca-

tion Policies for Internet Routing

RFC 1935: What Is the Internet, Anyway?

RFC 1925: The Twelve Networking Truths

RFC 1923: RIPvI Applicability Statement for His-

toric Status

RFC 1918: Address Allocation for Private

Internets

RFC 1917: An Appeal to the Internet Community to Return Unused IP Networks (Prefixes) to the

<<IP 路由技术基础>>

IANA

RFC 1878: Variable Length Subnet Table for

IPv4

RFC 1812: Requirements for IP Version 4

Routers

RFC 1631: The IP Network Address Translator

(NAT)

RFC 1601: Charter of the Internet Architecture-

Board (IAB)

RFC 1580: Guide to Network Resource

Tools

RFC 1393: Traceroute Using an IP Option.

RFC 1256: ICMP Router Discovery

Messages

RFC 1180: A TCP/IP Tutorial

RFC 1178: Choosing a Name for Your

Computer

RFC 1149: A Standard for the Transmission of IP

Datagrams on Avian Carriers

RFC 1058: Routing Information Protocol RFC 826: An Ethernet Address Resolution

Protocol

RFC 1700: Assigned Numbers

RFC 1534: BOOTP

RFC 2283, RFC 1966, RFC 1965, RFC 1774, RFC

1773, RFC 1772, RFC 1771, RFC 1745: Border

Gateway Protocol V4 (BGP4)

RFC 1817, RFC 1520, RFC 1519, RFC 1518, RFC

1517: Classless Interdomain Routing

(CIDR)

RFC 2132, RFC 2131, RFC 1534: Dynamic Host

Configuration Protocol (DHCP)

RFC 2308, RFC 2230, RFC 2219, RFC 2182, RFC

2181, RFC 2136, RFC 2052, RFC 1996, RFC

1995, RFC 1912, RFC 1794, RFC 1713: Do-

main Name System (DNS)

RFC 2178, RFC 1745, RFC 1587, RFC 1586, RFC

1585, RFC 1584: Open Shortest Path First

(OSPF)

RFC 1931, RFC 1293: Reverse Address Resolution

Protocol (RARP) Inverse RARP

RFC 2092, RFC 2091, RFC 1723, RFC 1722, RFC

1721, RFC 1582, RFC 1581: RIP

RFC 2072, RFC 2071: Router Renumbering

RFC 2001: TCP/IP (TCP) Slow Start

RFC 1470: TCP/IP Debugging Tools

Summary

<<IP 路由技术基础>>

Index

<<IP 路由技术基础>>

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