

About This Manual

Document Objectives

This publication provides internetworking design and implementation case studies and examples, with the intent to help you identify and implement practical internetworking strategies that are both flexible and scalable.

This publication was developed to assist professionals preparing for Cisco Certified Internetwork Expert (CCIE) candidacy, though it is a valuable resource for all internetworking professionals. It is designed for use in conjunction with other Cisco manuals or as a standalone reference. You may find it helpful to refer to the *Internetwork Design Guide*, which provides detailed descriptions of the internetworking strategies and technologies used in this publication.

Audience

This publication is intended to support the network administrator who designs and implements router- or switched-based internetworks, and describes practical examples of how to apply Cisco features to meet internetworking needs. Readers should know how to configure a Cisco router and should be familiar with the protocols and media that their routers have been configured to support.

Readers will better understand the material in this publication if they are familiar with networking terminology. The Cisco *Internetworking Terms and Acronyms* publication is a useful reference for those with minimal knowledge of networking terms.

Document Organization

This manual contains twelve chapters, which are described below:

Chapter 1 “RIP and OSPF Redistribution,” which addresses the issue of integrating Routing Information Protocol (RIP) networks with Open Shortest Path First (OSPF) networks

Chapter 2, “Dial-on-Demand Routing,” which addresses the dial-on-demand routing (DDR) feature that allows you to use existing telephone lines to form a wide-area network (WAN).

Chapter 3, “Increasing Security on IP Networks,” which addresses the broad topic of network security.

Chapter 4, “Integrating Enhanced IGRP into Existing Networks,” which addresses the Enhanced Interior Gateway Routing Protocol (IGRP).

Chapter 5, “Reducing SAP Traffic in Novell IPX Networks,” which addresses how to deal with the nuances of Novel IPX networks.

Chapter 6, “UDP Broadcast Flooding,” which addresses the interworkings of broadcast data packets.

Chapter 7, “STUN for Front-End Processors,” which addresses serial tunneling (STUN) and the integration of traditional *systems network architecture* (SNA) networks with multiprotocol networks.

Chapter 8, “Using ISDN Effectively in Multiprotocol Networks,” which addresses how, as telephone companies make Integrated Services Digital Network (ISDN) services available, ISDN is becoming an increasingly popular way of connecting remote sites.

Chapter 9, “Using HSRP for Fault-Tolerant IP Routing,”

which addresses Cisco’s Hot Standby Routing Protocol (HSRP), which provides automatic router backup when you configure it on Cisco routers that run the Internet Protocol (IP) over Ethernet, Fiber Distributed Date Interface (FDDI), and Token Ring local-area networks (LANs).

Chapter 10, “LAN Switching,” which addresses how to deal with the fact that today’s local-area networks (LANs) are becoming increasingly congested and overburdened.

Chapter 11, “Multicasting in IP and AppleTalk Networks,” which addresses the concept of end-users being able to send and receive audio and video (known collectively as *multimedia*) at the desktop has gained considerable attention and acceptance that has become increasingly common in the past few years.

Chapter 12, “Scaling Dial-on-Demand Routing,” which addresses the design of an access network that allows a large number of remote sites to communicate with an existing central-site network.

Document Conventions

In this publication, the following conventions are used:

- Commands and keywords are in **boldface**.
- New, important terms are *italicized* when accompanied by a definition or discussion of the term.
- Protocol names are *italicized* at their first use in each chapter.

Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.
