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# 组建 Cisco 远程接入网络 (英文版)

CCNP Self-Study

## Building Cisco Remote Access Networks

Cisco authorized self-study book for CCNP  
Remote Access foundation learning

Catherine Paquet 编著

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# 内 容 提 要

基于同名的 Cisco 全球培训课程,“组建 Cisco 远程接入网络”一书将教你如何利用 Cisco 公司的产品来设计、配置、维护和扩展远程接入网络。本书帮助你启用从小型办公室、家庭办公室或远程办公者场点到公司网络中心的按需连接,并增强其性能。本书分为 6 个主要部分:远程接入网简介、根据需求选择 Cisco 的远程接入解决方案、启用到网络中心的按需连接、增强按需连接、启用到网络中心的固定连接和扩展远程接入网络。

“组建 Cisco 远程接入网络”为在远程接入网络方面的工作应用提供了详细和简明的解决方案,配置举例展示了管理和故障排除技术,按步骤列出的配置和故障排除列表帮助你逐步掌握远程接入网络的组建和管理,深入的讨论将教你如何维护和扩展一个远程网络。最后,每章结尾的复习题可以帮助你评估对主要概念的理解,并且让你开始踏上获得 CCNP 证书的道路。

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# About the Author

**Catherine Paquet** is the Director of Technical Resources for Global Knowledge Network (Canada) Inc., Cisco's largest worldwide training partner. Catherine is a Cisco Certified Systems Instructor (CCSI) and Cisco Certified Network Professional (CCNP) with a Security Specialty. Catherine was a member of the team at Cisco Systems that developed the Building Scalable Cisco Networks (BSCN) instructor-led course.

Catherine has in-depth knowledge of routing technologies, security systems, and access services mainly in the areas of Frame Relay, ISDN, and Asynchronous connections. Catherine's internetworking career started as a LAN manager, promoted to WAN manager, and eventually become the nation-wide WAN manager for a federal department. She was the Master Instructor for the Building Cisco Remote Access Networks (BCRAN) and Managing Cisco Networks Security (MCNS) courses at Global Knowledge Network (Canada). She is now directing Global Knowledge technical operations for Canada. Catherine has a Masters in Business Administration (MBA) with a Major in Management Information Systems (M.I.S.). Catherine edited *Building Cisco Remote Access Networks* from Cisco Press, ISBN 1-57870-091-4.

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# Dedications

To Pierre, Laurence, and Simon

"Destiny is not a matter of chance, it is a matter of choice; it is not a thing to be waited for, it is a thing to be achieved."

—William Jennings Bryan

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God bless you all.

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## Preface

The World Wide Web, electronic commerce, intranets, extranets, and client/server networked applications are part of the business revolution. One of the most important capabilities that the business revolution must deliver is *access*. Remote access is about connecting people and businesses to the enterprise.

The enterprise must provide remote connectivity for individuals who need access to corporate resources while outside the corporate site—mobile users, telecommuters, even customers and suppliers. End-to-end remote access extends the power of the LAN through dedicated, leased, and regular phone lines out to the most remote users.

*Building Cisco Remote Access Networks* is a Cisco authorized, self-study guide. This book is one of several published by Cisco Press in support of the Cisco Career Certifications.

This book focuses on using available WAN technologies, such as ISDN and Frame Relay, to connect the enterprise to branch offices and telecommuters. You will learn different types of connectivity, software commands, configurations, and the hardware related to establishing permanent and dial connections. This book also covers the scaling of remote networks through technologies such as address translation and access control.

The book includes case studies that provide comprehensive accounts of concepts and configurations presented in different sections. Also, review questions at the end of each chapter give you an opportunity to test your conceptual and technical comprehension of the material.

This book can be used by anyone looking for extensive information on remote access and wide-area network communications. The book details dial-up concepts and technologies, access equipment, data-link protocols, routing, authentication, and traffic control and management. This book provides in-depth information to Cisco Certification candidates preparing for the CCNP Remote Access exam.

Information and configurations in the course are based on the Cisco Internetwork Operating System (IOS) 11.3.

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## Foreword

In April 1998, Cisco Systems, Inc., announced a new professional development initiative called the Cisco Career Certifications. These certifications address the growing worldwide demand for more and better-trained computer networking experts. Building upon our highly successful Cisco Certified Internetwork Expert (CCIE) program—the industry’s most respected networking certification vehicle—Cisco Career Certifications enable you to be certified at various technical proficiency levels.

*Building Cisco Remote Access Networks* is a Cisco authorized, self-paced learning tool that helps you understand the foundation concepts covered on the CCNP Remote Access exam. This book was developed in cooperation with the Cisco Internet Learning Solutions Group, the team within Cisco responsible for the development of the CCNP exams. As an early-stage exam preparation product, this book teaches you the techniques and technologies for enabling WAN solutions. Whether you are studying to become CCNP certified, or you are seeking to gain a better understanding of the products, services, and policies that enable you to build and manage effective remote access networks, you will benefit from the information presented in this book.

Cisco and Cisco Press present this material in a text-based format to provide another learning vehicle for our customers and the broader user community in general. Although a publication does not duplicate the instructor-led or e-learning environments, we acknowledge that not everyone responds in the same way to the same delivery mechanism. It is our intent that presenting this material via a Cisco Press publication will enhance the transfer of knowledge to a broad audience of networking professionals.

Cisco Press will present other books in the Certification Self-Study Series on existing and future exams to help achieve Cisco Internet Learning Solutions Group’s principal objectives: to educate the Cisco community of networking professionals and to enable that community to build and maintain reliable, scalable networks. The Cisco Career Certifications and classes that support these certifications are directed at meeting these objectives through a disciplined approach to progressive learning.

In order to succeed with Cisco Career Certifications and in your daily job as a Cisco certified professional, we recommend a blended learning solution that combines instructor-led training with hands-on experience, e-learning, and self-study training. Cisco Systems has authorized Cisco Learning Partners worldwide, which can provide you with the most highly qualified instruction and invaluable hands-on experience in lab and simulation environments. To learn more about Cisco Learning Partner programs available in your area, please go to <http://www.cisco.com/go/authorizedtraining>.

The Cisco Career Certifications and classes that support these certifications are directed toward meeting these objectives through a disciplined approach to progressive learning. The books Cisco creates in partnership with Cisco Press meet the same standards for content quality demanded of our courses and certifications. It is our intent that you will find this and subsequent Cisco Press certification self-study publications of value as you build your networking knowledge base.

Thomas M. Kelly  
Vice President, Worldwide Training  
Cisco Systems, Inc.  
June 2000



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