

Microsoft

MCSE

Exam 70-293

致胜
经典

2

Second Edition

(第二版)

Planning and Maintaining
a Microsoft®

WINDOWS
SERVER™ 2003
NETWORK
INFRASTRUCTURE
计划和管理网络设备

Craig Zacker with
Anthony Steven of Content Master

Self-Paced

Training Kit

China Edition

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Planning and Maintaining a Microsoft® Windows Server™ 2003 Network Infrastructure Second Edition

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Craig is a writer, editor, and networker whose computing experience began in the days of teletypes and paper tape. After making the move from minicomputers to PCs, he worked as an administrator of Novell NetWare networks and as a PC support technician while operating a freelance desktop publishing business. After earning a Master's Degree in English and American Literature from New York University, Craig worked extensively on the integration of Microsoft Windows NT into existing internetworks, supported fleets of Windows workstations, and was employed as a technical writer, content provider, and Webmaster for the online services group of a large software company. Since devoting himself to writing and editing full time, Craig has authored or contributed to many books on networking topics, operating systems, and PC hardware, including *MCSA/MCSE Self-Paced Training Kit (Exam 70-216): Microsoft Windows 2000 Network Infrastructure Administration*, Second Edition, and *MCSA/MCSE Self-Paced Training Kit (Exam 70-218): Managing a Microsoft Windows 2000 Network Environment*. He has also developed educational texts for college courses, online training courses for the Web, and has published articles with top industry publications. For more information on Craig's books and other works, see <http://www.zacker.com>.

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Content Master

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Steve Ryan is a senior technology writer with a proven ability to deliver a clear and concise explanation of a complex technology. He has been a Microsoft Certified Trainer for over 10 years and has worked in the Windows Server family of products for many years, specializing in messaging and management technologies. He has authored many technical guides for Microsoft, including the "Security Monitoring and Audit Functionality Guide" and the "Identity and Access Management Series". Steve is married with three children and lives in Epsom, Surrey, in the United Kingdom.

About This Book

Welcome to *MCSE Self-Paced Training Kit (Exam 70-293): Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure*, Second Edition. In this book, you study some of the more advanced applications, protocols, and services included with Windows Server 2003 with Service Pack 1 (SP1) and learn how to use them to create a network that is both efficient and secure. For many of these applications, protocols, and services, implementing them on a network consists of a good deal more than just running an installation program or configuring a few parameters; many of them require careful planning and continual maintenance once you have completed the initial implementation. This book covers all these phases of the implementation process, so you learn all the relevant information about each network infrastructure component.



Planning The 70-293 exam includes simulation questions. Simulating a computer running the Windows Server 2003 operating system, these challenging questions provide you with a virtual computer interface through which you need to perform a number of administrative procedures. A simulation question presents a scenario with a list of requirements that you must translate into a set of procedures to perform. For a demonstration of a simulation, see the “Answering Simulation Questions” demo on the companion CD.

Intended Audience

This book was developed for information technology (IT) professionals who plan to take the related Microsoft Certified Professional (MCP) exam 70-293, *Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure*, as well as IT professionals who design, implement, and maintain networks based on Microsoft Windows Server 2003 SP1 and its related technologies.



Note Exam skills are subject to change without prior notice and at the sole discretion of Microsoft.

Prerequisites

The MCSE 70-293 exam and this training kit do not have any official prerequisites, but students should have the following:

- At least one year of experience implementing and administering a Microsoft Windows network with the following characteristics: 250 to 5,000 or more users,

at least three physical locations, a minimum of three Active Directory domain controllers, and a variety of network services and resources, such as file and print servers, client/server applications, Internet access, and remote access

- At least one year of experience implementing and maintaining desktop operating systems
- Experience planning and designing networks

About the CD-ROM

For your use, this book includes a companion CD-ROM. This CD-ROM contains a variety of informational aids to complement the book content:

- The Microsoft Press Readiness Review Suite Powered by MeasureUp. This suite of practice tests and objective reviews contains questions of varying degrees of complexity and offers multiple testing modes. You can assess your understanding of the concepts presented in this book and use the results to develop a learning plan that meets your needs.
- An electronic version of this book (eBook). For information about using the eBook, see the section “The eBook” later in this introduction.
- Lab files that you use to complete exercises in this training kit.
- Sample chapters from several Microsoft Press books that give you additional information about Windows Server 2003 and introduce you to other resources that are available from Microsoft Press.
- An overview of Windows Server 2003 Service Pack 1 and Windows Server 2003 R2.
- A free demo: “Answering Simulation Questions.”
- A demo and a simulation that introduce you to Shadow Copies.
- Bonus material including white papers and links to a free e-learning course and clinic.

Two additional CD-ROMs contain a 180-day Evaluation Edition of Microsoft Windows Server 2003 with SP1 and R2, Enterprise Edition. You will use SP1 to complete this training kit. R2 is for your reference only; do not install R2 until you have completed the training kit exercises.



Important The 180-day Evaluation Edition provided with this training kit is not the full retail product and is provided only for the purposes of training and evaluation. Microsoft Technical Support does not support this Evaluation Edition.

For additional support information regarding this book and the CD-ROM (including answers to commonly asked questions about installation and use), visit the Microsoft Press Technical Support Web site at <http://www.microsoft.com/learning/support/books/>. You can also e-mail tkinput@microsoft.com or send a letter to Microsoft Press, Attention: Microsoft Press Technical Support, One Microsoft Way, Redmond, WA 98052-6399.

Features of This Book

This book has two parts. Use Part 1 to learn at your own pace and practice what you've learned with practical exercises. Part 2 contains questions and answers that you can use to test yourself on what you've learned.

Part 1: Learn at Your Own Pace

Each chapter identifies the exam objectives that are covered in the chapter, provides an overview of why the topics matter by explaining how the information applies in the real world, and lists any prerequisites that must be met to complete the lessons presented in the chapter.

The chapters contain a set of lessons. Lessons contain practices that include one or more hands-on exercises. These exercises give you an opportunity to use the skills being presented or explore the part of the application being described. Each lesson also has a set of review questions to test your knowledge of the material covered in that lesson.

After the lessons, you are given an opportunity to apply what you've learned in a case scenario exercise. In this exercise, you work through a multistep solution for a realistic case scenario. You are also given an opportunity to work through a troubleshooting lab that explores difficulties you might encounter when applying what you've learned on the job.

Each chapter ends with a summary of key concepts and a short section listing key topics and terms that you need to know before taking the exam, summarizing the key learning points with a focus on the exam.



Real World Helpful Information

You will find sidebars like this one, which contain related information you might find helpful. "Real World" sidebars contain specific information gained through the experience of IT professionals just like you.

Part 2: Prepare for the Exam

Part 2 helps to familiarize you with the types of questions that you will encounter on the MCP exam. By reviewing the objectives and the sample questions, you can focus on the specific skills that you need to improve before taking the exam.



See Also For a complete list of Microsoft certification exams and their related objectives, go to <http://www.microsoft.com/learning/mcp/default.asp>.

Part 2 is organized by the exam's objectives. Each chapter covers one of the primary groups of objectives, called *Objective Domains*. Each chapter lists the tested skills you must master to answer the exam questions and includes a list of further reading to help you improve your ability to perform the tasks or use the skills specified by the objectives.

Within each Objective Domain, you will find the related objectives that are covered on the exam. Each objective provides you with several practice exam questions. The answers are accompanied by explanations of each correct and incorrect answer.



On the CD These questions are also available on the companion CD as a practice test.

Informational Notes

Several types of reader aids appear throughout the training kit.

- **Tip** contains methods of performing a task more quickly or in a not-so-obvious way.
- **Important** contains information that is essential to completing a task.
- **Note** contains supplemental information.
- **Caution** contains valuable information about possible loss of data; be sure to read this information carefully.
- **Warning** contains critical information about possible physical injury; be sure to read this information carefully.
- **See Also** contains references to other sources of information.
- **Planning** contains hints and useful information that should help you plan the implementation.
- **Security Alert** highlights information you need to know to maximize security in your work environment.
- **Exam Tip** flags information you should know before taking the certification exam.
- **Off the Record** contains practical advice about the real-world implications of information presented in the lesson.



Notational Conventions

The following conventions are used throughout this book.

- Characters or commands that you type appear in **bold** type.
- *Italic* in syntax statements indicates placeholders for variable information. Italic is also used for newly introduced terms and book titles.
- Names of files and folders appear in Title caps, except when you are to type them directly. Unless otherwise indicated, you can use all lowercase letters when you type a file name in a dialog box or at a command prompt.
- File name extensions appear in all lowercase.
- Acronyms appear in all uppercase.
- Monospace type represents code samples, examples of screen text, or entries that you might type at a command prompt or in initialization files.
- Square brackets [] are used in syntax statements to enclose optional items. For example, [*filename*] in command syntax indicates that you can choose to type a file name with the command. Type only the information within the brackets, not the brackets themselves.
- Braces { } are used in syntax statements to enclose required items. Type only the information within the braces, not the braces themselves.

Keyboard Conventions

- A plus sign (+) between two key names means that you must press those keys at the same time. For example, “Press ALT+TAB” means that you hold down ALT while you press TAB.
- A comma (,) between two or more key names means that you must press each of the keys consecutively, not together. For example, “Press ALT, F, X” means that you press and release each key in sequence. “Press ALT+w, L” means that you first press ALT and w at the same time, and then release them and press L.

Getting Started

This training kit contains hands-on exercises to help you learn about the networking features of Windows Server 2003 with SP1, Enterprise Edition. Use this section to prepare your self-paced training environment. Your environment should meet the system requirements listed at <http://www.microsoft.com/windowsserver2003/evaluation/sysreqs/default.mspx>.



Caution Several exercises require you to make changes to the computer running Windows Server 2003 SP1, which can have undesirable results if the system is used for other purposes or is connected to a production network. It is strongly recommended that you create a new Windows Server 2003 SP1 installation on your computer using the 180-day Evaluation Edition of the operating system provided on the CD-ROM (CD1 only). If the computer is connected to a network, check with your network administrator before attempting these exercises.

Hardware Requirements

Each computer must have the following minimum hardware configuration.

- Minimum CPU: 133 MHz processor (550 MHz is recommended)
- Minimum RAM: 128 MB (256 MB is recommended)
- Hard disk space for setup: 1.5 GB to 2.0 GB
- Display monitor capable of 800 × 600 resolution or higher
- CD-ROM or DVD-ROM drive
- Microsoft Mouse or compatible pointing device
- Network interface adapter (optional)

Software Requirements

The following software is required to complete the procedures in this training kit:

- Windows Server 2003 SP1, Enterprise Edition (A 180-day Evaluation Edition of Windows Server 2003 with SP1 and R2, Enterprise Edition, is included with this training kit.)



Caution The 180-day Evaluation Edition provided with this training kit is not the full retail product and is provided only for the purposes of training and evaluation. Microsoft Technical Support does not support these Evaluation Editions. For additional support information regarding this book and the CD-ROMs (including answers to commonly asked questions about installation and use), visit the Microsoft Press Technical Support Web site at <http://www.microsoft.com/learning/support/books>. You can also e-mail tkinput@microsoft.com or send a letter to Microsoft Press, Attn: Microsoft Press Technical Support, One Microsoft Way, Redmond, WA 98502-6399.

Setup Instructions

Set up your computer according to the manufacturer's instructions. Then install Windows Server 2003 SP1, Enterprise Edition, according to the instructions provided on the installation CD-ROM.



Important The Evaluation Edition software provided with this training includes Service Pack 1. Install Service Pack 1 (CD1) to complete the exercises in this training kit. Do not install R2 (CD2) until you have completed the exercises. This version of R2 is for your reference only. It is not covered in the 70-293 exam and, therefore, is not covered in this training kit.

Use the following table during installation to help you configure the Windows Setup parameters.

Windows Setup Wizard page	Settings
Regional And Language Options	Default (English)
Personalize Your Software	Enter your name and organization.
Your Product Key	Enter the product key provided with the Windows Server 2003 SP1 CD-ROM.
Licensing Modes	Default
Computer Name And Administrator Password	Computer Name: Server01 Administrator Password: (enter a strong password of your choice)
Modem Dialing Information	Default
Date And Time Settings	Your date, time, and time zone
Networking Settings	Custom Settings IP Address: 10.0.0.1 Subnet Mask: 255.0.0.0 Preferred DNS Server: 10.0.0.1
Workgroup Or Computer Domain	Default (Workgroup named "WORKGROUP")



Caution If your computers are connected to a larger network, you *must* verify with your network administrator that the computer names, domain name, and other information used in setting up your system as described in this section does not conflict with network operations. If it does conflict, ask your network administrator to provide alternative values and use those values throughout the exercises in this book.

Setup for Practice Exercises

After you complete the Windows Server 2003 SP1 installation, complete the following configuration steps to prepare your computer for the practice exercises in the lessons.

1. Create a folder called Windist on your computer's system drive. Then, copy the contents of the I386 folder on the Windows Server 2003 SP1 CD-ROM to the Windist folder.
2. Use the Manage Your Server page (which appears by default after you log on to the computer for the first time) to add the domain controller role to the server. This installs the Active Directory, DHCP, and DNS services on the computer. The procedure is as follows:
 - a. On the Manage Your Server page, click the Add Or Remove A Role hyperlink. The Preliminary Steps page appears.
 - b. Click Next. The Configure Your Server Wizard analyzes the computer. When the analysis completes, the Configuration Options page appears.
 - c. Click the Typical Configuration For A First Server option button, and then click Next. The Active Directory Domain Name page appears.
 - d. In the Active Directory Domain Name text box, type **contoso.com**, and then click Next. The NetBIOS Name page appears.
 - e. Click Next to accept the default DNS and NetBIOS domain names. The Forwarding DNS Queries page appears.
 - f. Click No, Do Not Forward Queries, and then click Next. The Summary Of Selections page appears.
 - g. Click Next to accept your selections. A Configure Your Server Wizard message box appears.
 - h. Click OK to begin the installation process. After a few minutes, the computer restarts.
 - i. Log on as Administrator. The Server Configuration Progress page appears to continue the installation process.
 - j. When the installation is complete, click Next, and then click Finish in the This Server Is Now Configured page.
 - k. Close the Manage Your Server window.
3. Install the Microsoft Loopback Adapter (a virtual network interface adapter) using the following procedure:
 - a. From Control Panel, display the Add Hardware Wizard.
 - b. Click Next to begin the search for new hardware. The Is The Hardware Connected? page appears.

- c. Click Yes, I Have Already Connected The Hardware, and then click Next. The Following Hardware Is Already Installed On Your Computer page appears.
 - d. Scroll down in the Installed Hardware list, select Add A New Hardware Device, and then click Next. The Wizard Can Help You Install Other Hardware page appears.
 - e. Select the Install The Hardware That I Manually Select From A List (Advanced) option button, and then click Next. The From The List Below, Select The Type Of Hardware You Are Installing page appears.
 - f. Scroll down in the Common Hardware Types list, click Select Network Adapters, and then click Next. The Select Network Adapter page appears.
 - g. Select Microsoft in the Manufacturer list and Microsoft Loopback Adapter in the Network Adapter list, and then click Next. The Wizard Is Ready To Install Your Hardware page appears.
 - h. Click Next again to install the adapter driver.
 - i. When the Completing The Add Hardware Wizard page appears, click Finish to complete the installation.
4. Rename the icons in the Network Connections window, using the following procedure:
- a. Right-click the Local Area Connection icon (corresponding to the network interface adapter in the computer), select Rename from the shortcut menu, and rename it **LAN Connection**.
 - b. Right-click the Local Area Connection 2 icon (corresponding to the Microsoft Loopback Adapter you just installed), select Rename from the shortcut menu, and rename it **WAN Connection**.



See Also If you do not have a network interface adapter installed in your computer, you can repeat the procedure in Step 3 twice to install two Microsoft Loopback Adapters, and then rename the two Local Area Connection icons as described here.

The Microsoft Press Readiness Review Suite

The CD-ROM includes a practice test consisting of 300 sample exam questions and an objective review with an additional 125 questions. Use these tools to reinforce your learning and identify any areas where you need to gain more experience before taking the exam.

► To install the practice test and objective review

1. Insert the companion CD-ROM into your CD-ROM drive.



Note If AutoRun is disabled on your machine, refer to the Readme.txt file on the CD-ROM.

2. Click Readiness Review Suite on the user interface menu and follow the prompts.

The eBook

The companion CD includes an electronic version of this training kit, as well as bonus material, including sample chapters from several Microsoft Press books and relevant white papers. The eBook and bonus materials are in Portable Document Format (PDF) and can be viewed using Adobe Reader (<http://www.adobe.com>).

► To use the eBook

1. Insert the companion CD into your CD-ROM drive.



Note If AutoRun is disabled on your computer, refer to the Readme.txt file on the CD.

2. Click eBook on the user interface menu and follow the prompts. You can also review any of the other PDF files that are provided for your use.

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The Microsoft certifications provide the best method for proving your command of current Microsoft products and technologies. The exams and corresponding certifications are developed to validate your mastery of critical competencies as you design and develop, or implement and support, solutions with Microsoft products and technologies. Computer professionals who become Microsoft certified are recognized as experts and are sought after industry-wide. Certification brings a variety of benefits to the individual and to employers and organizations.



See Also For a full list of Microsoft certifications, go to <http://www.microsoft.com/learning/itpro/default.asp>.

Technical Support

Every effort has been made to ensure the accuracy of this book and the contents of the companion CD. If you have comments, questions, or ideas regarding this book or the companion disc, please send them to Microsoft Press using either of the following methods:

E-mail: tkinput@microsoft.com

Postal Mail: Microsoft Press
 Attn: *MCSE Self-Paced Training Kit (Exam 70-293): Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure*, Second Edition, Editor
 One Microsoft Way
 Redmond, WA 98052-6399

For additional support information regarding this book and the CD-ROM (including answers to commonly asked questions about installation and use), visit the Microsoft Press Technical Support Web site at <http://www.microsoft.com/learning/support/books/>. To connect directly to the Microsoft Press Knowledge Base and enter a query, visit <http://www.microsoft.com/mspress/support/search.asp>. For support information regarding Microsoft software, please connect to <http://support.microsoft.com/>.

Evaluation Edition Software Support

The 180-day Evaluation Edition provided with this training is not the full retail product and is provided only for the purposes of training and evaluation. Microsoft and Microsoft Technical Support do not support this Evaluation Edition.



Caution The Evaluation Edition of Windows Server 2003 with SP1 and R2, Enterprise Edition, that is included with this book should not be used on a primary work computer. The Evaluation Edition is unsupported. For online support information relating to the full version of Windows Server 2003 R2, Enterprise Edition, that *might* also apply to the Evaluation Edition, you can connect to <http://support.microsoft.com/>.

Information about any issues relating to the use of this Evaluation Edition with this training kit is posted to the Support section of the Microsoft Press Web site (<http://www.microsoft.com/learning/support/books/>). For information about ordering the full version of any Microsoft software, please call Microsoft Sales at (800) 426-9400 or visit <http://www.microsoft.com>.

Microsoft Press Online: Resources for Microsoft Windows Server 2003 Training Kits, Second Edition

This site provides you with resources that work with your training kit to keep you current and help you prepare for one of the core MCSA (Microsoft Certified Systems Administrator) or MCSE (Microsoft Certified Systems Engineer) certification exams.

Go to <http://www.microsoft.com/learning/books/windowsserver2003trainingkits/> to find:

- Updated information for your training kit, when available
- Sample content from additional Microsoft Press books
- A brief survey to provide feedback about your books
- Special offers

At the site, you may also join the Microsoft Press Insiders' club, with the following additional benefits:

- Microsoft Press book in searchable e-Reference form
- Discounts on popular Microsoft Press books
- Updates on changes to the certification exam covered by this Training Kit, when available

Charter membership in the Microsoft Press Insiders' club, which includes e-mail updates about the latest offerings in learning products, special offers, advance notices about discounts at participating booksellers, and exclusive offers. It is the one e-mail you'll be glad to see in your inbox!

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