

MCSE 考试指南系列

MCSE:

TCP/IP for NT 4

考试指南 (英文原版)



*MCSE Test Success:
TCP/IP for NT 4*

微软认证的系
统工程师系列
丛书之十二

[美] VFX Technologies Inc. 著



电子工业出版社

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MCSE系列丛书说明

MCSE考试

MCSE是Microsoft Certified Systems Engineer（微软认证的系统工程师）的缩写形式。MCSE证书意味着持有者具有较高层次的Windows NT、微软操作系统和相关产品的知识。获得MCSE证书需要有良好的计算机基础知识，还需要对操作系统、网络系统和信息化产品有深刻全面的了解，需要经过认真甚至是艰苦的学习和实践过程。由于该证书取之不易，一旦获得便足以说明证书持有者的技术水平，所以该证书得到了普遍的认可，几乎成为许多国外大公司录用人员、提升职务，甚至是提高薪金的依据，所以MCSE考生人数逐年上升。

要获得MCSE证书，需要通过4项必考科目和两项自选科目考试。具体情况如下：

表0.1 MCSE考试内容与可选科目

必考科目	考试内容	可选择科目
#1	网络操作系统	Windows NT Server 3.51或Windows NT 4.0
#2	企业网系统应用	Windows NT Server (3.51或4.0) in the Enterprise
#3	网络基础知识	Networking Essentials
#4	微软操作系统知识	Windows 3.1, Windows 3.11 for Workgroups Windows 95, Windows NT Workstation
自选科目	考试内容	可选择科目
#5	微软信息服务器产品	SQL Server, SNA Server, Exchange Server或 Internet Information Server等十余个科目
#6	微软公司有关TCP/IP 方面的产品	TCP/IP

注释：表中号码#1、#2等仅为叙述方便，与微软考试科目编号无关

为配合国内读者学习掌握计算机基础知识、操作系统、网络系统及信息化产品，我们推出了两套MCSE考试系列丛书，即：

- MCSE学习指南系列（中文译本），目前推出7种
- MCSE考试指南系列（英文原版），目前推出5种

MCSE学习指南系列

由于MCSE考试的技术水平高，要求考生概念清晰、基础知识牢固、能灵活地运用所学知识，并具有丰富的实践经验。显而易见，MCSE的学习、考试用书也应具备上述特点，介绍MCSE的书籍不但适用于MCSE考生，同时也适用于希望学习、掌握相关知识的普通技术人员。为此我们翻译了本系列丛书，并首先推出其中的7本，具体如下：

表0.2 MCSE系列丛书（学习指南系列）

中文书名	丛书编号	适用的考试科目
MCSE: Windows NT Server 4学习指南	MCSE系列丛书之一	表0.1 #1
MCSE: NT Server 4 in the Enterprise学习指南	MCSE系列丛书之二	表0.1 #2
MCSE: 网络基础学习指南	MCSE系列丛书之三	表0.1 #3
MCSE: Windows NT Workstation学习指南	MCSE系列丛书之四	表0.1 #4
MCSE: Windows 95学习指南	MCSE系列丛书之五	表0.1 #4
MCSE: TCP/IP学习指南	MCSE系列丛书之六	表0.1 #6
MCSE: Microsoft Internet Information Server学习指南	MCSE系列丛书之七	表0.1 #5

MCSE考试指南系列

如果说“学习指南”系列（MCSE系列丛书之一至之七）的特点是，十分注重原理介绍、概念阐述和外沿知识的说明；那么，新的考试指南系列则注意了必须了解的知识、结论，强调了正确的操作方法和实际处理问题的能力，同时介绍了许多MCSE考试的经验和技巧，并附有考试例题。

考虑到考试指南系列书注重结论、致力于支持读者通过MCSE考试等特点，加之MCSE考生英语水平普遍很高（考试本身需用英语完成），我们本次以英文“重印”形式推出了五本“考试指南”系列书，详见表0.3所示。

表0.3 MCSE系列丛书（考试指南系列）

中文书名	丛书编号	适用的考试科目
MCSE: NT Server 4考试指南	MCSE系列丛书之八	表0.1 #1
MCSE: NT Server 4 in the Enterprise考试指南	MCSE系列丛书之九	表0.1 #2
MCSE: Networking Essentials考试指南	MCSE系列丛书之十	表0.1 #3
MCSE: NT Workstation 4考试指南	MCSE系列丛书之十一	表0.1 #4
MCSE: TCP/IP for NT 4考试指南	MCSE系列丛书之十二	表0.1 #6

由于采用“重印”方式，即从SYBEX公司购买版权，同时获取该书的文本文件和图形文件，在国内重新排版印刷，这样做的优势在于：

- 降低了图书价格，重印书比原版图书便宜许多。
- 缩短了制作周期，重印书与原版书的“出版时差”不足两个月。
- 提高了制作质量，使用原文件排版，印刷质量明显优于各种影印外文原版书。

综上所述，不难想象，该系列书会再次得到广大读者的欢迎。

最后，向支持和喜爱我们图书的广大读者表示感谢，并肯请读者对书中存在的问题提出批评和指正。

Acknowledgments

The author is only one of the people involved in creating a book. I'd like to thank my family (both human and feline) for their support while I was working on this project. (Well, Scott, the human part of the family, was supportive. The three feline members tried to sleep on the keyboard while I was working and had to be restrained.) I'd also like to thank the crew at Sybex for their suggestions on how to make this book even better, particularly Bonnie Bills, Dann McDorman, Pat Coleman, Jim Cooper, Bill Gibson, and Eryn L. Osterhaus. And finally, thanks to Doug Archell for putting me in touch with Sybex for this project in the first place.

Christa Anderson

Introduction

One of the greatest challenges facing corporate America today is finding people who are qualified to manage corporate computer networks. Many companies have Microsoft networks, which run Windows 95, Windows NT, and other Microsoft BackOffice products (such as Microsoft SQL Server and Systems Management Server).

Microsoft developed its Microsoft certification program to certify those people who have the skills to work with Microsoft products and networks. The most highly coveted certification is MCSE, or Microsoft Certified Systems Engineer.

Why become an MCSE? Knowledge is important, but the MCSE can also gain a more tangible benefit: money. You will have much greater earning potential with this certification, as an MCSE carries high industry recognition. Certification can be your key to a new job or a higher salary—or both.

So what's stopping you? If it's because you don't know what to expect from the tests or are worried that you might not pass, this book is for you.

Your Key to Passing Exam 70-059

This book provides you with the key to passing Exam 70-059, Internetworking with Microsoft TCP/IP on Windows NT 4.0. Inside, you'll find all the information relevant to this exam, including hundreds of practice questions designed to make sure that you're ready for even the picky questions about less frequently used options.

Understand the Exam Objectives

To help you prepare for certification exams, Microsoft provides a list of objectives for each test. This book is structured according to the objectives for Exam 70-059, which measure your ability to design, administer, and troubleshoot TCP/IP networks under Windows NT 4.

At-a-glance review sections and hundreds of study questions bolster your knowledge of the information relevant to each objective and the exam itself. You learn exactly what you need to know without wasting time on background material or detailed explanations.

This book provides a final review of the information you'll need to pass the exam, although to be ready for the real world, you need to study the subject in greater depth and get a good deal of hands-on practice.

Get Ready for the Real Thing

More than 150 sample test questions prepare you for the test-taking experience. These are multiple-choice questions that resemble actual exam questions—some are even more difficult than what you'll find on the exam. If you can pass the Sample Tests at the end of each unit and the Final Review in Unit 6, you'll know you're ready.

Is This Book for You?

This book is intended for those who already have some experience with TCP/IP. It is especially well suited for:

- Students using courseware or taking a class to prepare for the exam, and who need to supplement their study material with test-based practice questions.
- Network engineers who have worked with TCP/IP but want to make sure there are no gaps in their knowledge.
- Anyone who has studied for the exams—by using self-study guides, by participating in computer-based training or classes, or by getting on-the-job experience—and wants to make sure that they're adequately prepared.

Understanding Microsoft Certification

Microsoft offers several levels of certification for anyone who has or is pursuing a career as a network professional working with Microsoft products:

- Microsoft Certified Professional (MCP)
- Microsoft Certified Systems Engineer (MCSE)
- Microsoft Certified Professional + Internet
- Microsoft Certified Systems Engineer + Internet
- Microsoft Certified Trainer (MCT)

The level you choose depends on your area of expertise and your career goals.

Microsoft Certified Professional (MCP)

This certification is for individuals with expertise in one specific area. MCP certification is often a stepping stone to MCSE certification and allows you some benefits of Microsoft certification after just one exam.

By passing one core exam (meaning an operating system exam), you become an MCP.

Microsoft Certified Systems Engineer (MCSE)

For network professionals, the MCSE certification requires commitment. You need to complete all the steps required for certification. Passing the exams shows that you meet the high standards that Microsoft has set for MCSEs. To

become an MCSE, you must pass a series of six exams:

1. Networking Essentials (waived for Novell CNEs) (70-058)
2. Either Implementing and Supporting Microsoft Windows 95 (70-064) or Windows NT Workstation 4.0 (70-073)
3. Implementing and Supporting Microsoft Windows NT Server 4.0 (70-067)
4. Implementing and Supporting Microsoft Windows NT Server 4.0 in the Enterprise (70-068)
5. Elective
6. Elective

Some of the electives include:

- Internetworking with Microsoft TCP/IP on Microsoft Windows NT 4.0 (70-059)
- Implementing and Supporting Microsoft Internet Information Server 4.0 (70-087)
- Implementing and Supporting Microsoft Proxy Server v2.0 (70-088)
- Implementing and Supporting Microsoft Exchange Server 5.5 (70-081)
- Implementing and Supporting Microsoft SNA Server 4.0 (70-085)
- Implementing and Supporting Microsoft Systems Management Server 1.2 (70-018)
- Implementing a Database Design on Microsoft SQL Server 6.5 (70-027)
- System Administration for Microsoft SQL Server 6.5 (70-026)



For fast access to a complete list of all Microsoft certification exams and links to their exam-specific pages, go to http://www.microsoft.com/train_cert/html/exam.htm.

Microsoft Certified Trainer (MCT)

As an MCT, you can deliver Microsoft certified courseware through official Microsoft channels.

The MCT certification is more costly than the other options, because in addition to passing the exams, it requires that you sit through the official Microsoft courses. You also need to submit an application to be approved by Microsoft. The number of exams you are required to pass depends on the number of courses you want to teach.

Preparing for the MCSE Exams

To prepare for the MCSE certification exams, you should try to work with the product as much as possible. In addition, you can learn about the products and exams from a variety of resources:

- You can take instructor-led courses.
- Online training is an alternative to instructor-led courses. This is a useful option for people who cannot find any courses in their area or who do

not have the time to attend classes.

- If you prefer to use a book to help you prepare for the MCSE tests, you can choose from a wide variety of publications. These range from complete study guides (such as the Network Press *MCSE Study Guide* series, which covers the core MCSE exams and key electives) through test-preparedness books similar to this one.

After you complete your courses, training, or study guides, you'll find the *MCSE Test Success* books an excellent resource for preparing you for the test. You will discover if you've got it covered or if you still need to fill some holes.



For more MCSE information, point your browser to the Sybex Web site, where you'll find information about the MCP program, job links, and descriptions of other quality titles in the Network Press line of MCSE-related books. Go to <http://www.sybex.com/> and click on the MCSE logo.

Scheduling and Taking an Exam

Once you think you are ready to take an exam, call Sylvan Prometric Testing Centers at (800) 755-EXAM (800/755-3926). They'll tell you where to find the closest testing center. Before you call, get out your credit card; each exam costs \$100.

You can schedule the exam for a time convenient for you. The exams are downloaded from Sylvan Prometric to the testing center, and you show up at your scheduled time and take the exam on a computer.

Once you complete the exam, you will know right away whether you have passed. At the end of the exam, you will receive a score report. It will list the six areas you were tested on and how you performed. If you pass the exam, you don't need to do anything else—Sylvan Prometric uploads the test results to Microsoft. If you don't pass, it's another \$100 to schedule the exam again. But at least you will know from the score report where you did poorly, and you can study the areas in which you need work.

You can also register online. To do so, go to <http://www.prometric.com/testingcandidates/register/reg.asp>.

Test-Taking Hints

If you know what to expect, your chances of passing the exam will be much greater. Here are some tips that can help you achieve success.

Get there early and be prepared This is your last chance to review. Bring your *MCSE Test Success* book and review any areas with which you are not comfortable.



If you need a quick drink of water or a visit to the restroom, take the time before the exam. Once your exam starts, it will not be paused for these needs.

When you arrive for your exam, you will be asked to present two forms of identification, one with a signature. You will also be asked to sign a piece of paper verifying that you understand the testing rules (for example, the rule that says you will not cheat on the exam).

Before you start the exam, you will have an opportunity to take a practice exam. It is not related to Windows 95 and is simply offered so you will have a feel for the exam process.

You can't take it with you These are closed-book exams. Many testing centers are very strict about what you can take into the testing room. Although the exact security requirements seem to depend on the individual testing center, some centers even forbid you to bring in items such as a zipped-up purse.

The testing center will provide you with scratch paper. Use this paper as much as possible to diagram the questions. Many times diagramming questions will help make the answer clear. You will have to give this paper back to the test administrator at the end of the exam.

If you feel tempted to take in any outside material, be aware that many testing centers use monitoring devices such as video and audio equipment. Prometric Testing Centers take the test-taking process and the test validation very seriously.

Test approach As you take the test, if you know the answer to a question, fill it in and move on. If you're not sure of the answer, mark your best guess, and then "mark" the question so that at the end of the exam you can review the questions you marked and check your answers.

At the end of the exam, you can review the questions. Depending on the amount of time remaining, you can then view all of the questions again, or you can view only the questions that you "marked." I always like to double-check all of my answers, just in case I misread any of the questions on the first pass. (Sometimes half the battle is in trying to figure out exactly what the question is asking you.) Also, sometimes I find that a related question later in the exam provides a clue for a question about which I was uncertain.



Read carefully, as the questions seem to be phrased to be confusing on purpose. This is not the time to skim!

Remember: Answer all the questions. Unanswered questions are scored as incorrect and will count against you. Also, be sure you keep an eye on the remaining time so you can pace yourself accordingly.



Don't worry if you don't own a watch. The upper right corner of your testing monitor will display both the current time and the number of minutes you have left.

If you do not pass the exam, note everything you can remember while the exam is still fresh in your mind. This will help you prepare for your next try. Although the next exam will not be exactly the same, the questions will be similar, and you don't want to make the same mistakes.

After You Become Certified

Once you become an MCSE, Microsoft kicks in some goodies, including:

- A one-year subscription to Microsoft TechNet, a monthly CD that contain Microsoft support information (including online versions of all product resource kits), service packs, utilities, and driver updates.
- A one-year subscription to the Microsoft Beta Evaluation program, which is a great way to get your hands on new software. Be the first kid on the block to play with new and upcoming operating systems and evaluations.
- Access to a secured area of the Microsoft Web site that provides technical support and product information. This certification benefit is also available for MCP certification.
- Permission to use the Microsoft Certified Professional logos (each certification has its own logo), which look great on letterhead and business cards.
- A certificate (you will get a certificate for each level of certification you reach).
- A one-year subscription to Microsoft Certified Professional Magazine, which provides information on professional and career development.

How to Use This Book

This book is designed to help you prepare for the MCSE exam. It reviews each objective and relevant test-taking information and offers you a chance to test your knowledge through study questions and sample tests.

The first five units in this book correspond to the Microsoft objectives groupings:

- Planning
- Installation and Configuration
- Connectivity
- Monitoring and Optimization
- Troubleshooting

The sixth unit is the Final Review, which contains test questions pertaining to all the previous units.

For each unit:

1. Review the exam objectives at the beginning of the unit. (You may want to check the Microsoft Training Certification Web site at http://www.microsoft.com/Train_Cert/ to make sure the objectives haven't changed, as they're updated fairly often.)

2. Read through or scan the reference material that follows the objectives list. Broken down according to the objectives, this section helps you brush up on the information you need to know for the exam.
3. Review your knowledge in the Study Questions section. These are straightforward questions designed to test your knowledge of the specific topic. Answers to Study Questions are in the appendix at the back of the book.
4. Once you feel sure of your knowledge of the area, take the Sample Test at the end of the unit. The Sample Test's content and style matches the real exam. Set yourself a time limit based on the number of questions.



The general rule of thumb is that you should be able to answer 20 questions in 30 minutes.

When you've finished, check your answers with the appendix in the back of the book. If you answer at least 85 percent of the questions correctly within the time limit the first time you take each Sample Test, you're in good shape. To really prepare, you should note the questions you miss and be able to score 95 to 100 percent correctly on subsequent tries.

After you successfully complete Units 1-5, take the Final Review in Unit 6. Allow yourself 100 minutes to complete the test. If you answer 85 percent of the questions correctly on the first try, you're well prepared. If not, go back and review your knowledge of the areas you struggled with, and take the test again.



Right before you take the test, scan the reference material at the beginning of each unit to refresh your memory.

At this point, you are well on your way to becoming certified. Good luck!

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UNIT

1

Planning