# MCSE:

# NT Workstation 4

考试指南(英文原版)



MCSE Test Success: NT Workstation 4

> 微软认证的系 统工程师系列 丛书之十一







電子工業出版社·

Publishing House of Electronics Industry

URL:http://www.phei.com.cn

MCSE Test Success: NT Workstation 4

MCSE 考试指南系列

微软认证的系统工程师 系列丛书之十一

MCSE: NT Workstation 4

考试指南 (英文原版)

〔美〕 Todd Lammle 著 Lisa Donald

電子工業出版社.

Publishing House of Electronics Industry

#### 版权声明



Copyright©1998 SYBEX Inc., 1151 Marina Village Parkway, Alameda, CA 94501. World rights reserved. No part of this publication may be stored in a retrieval system, transmitted, or reproduced in any way, including but not limited to photocopy, photograph, magnetic or other record, without the prior agreement and written permission of the publisher.

本书英文版由美国SYBEX公司出版,SYBEX公司已将中文版独家版权授予中国电子工业出版社及北京美迪亚电子信息有限公司。未经许可,不得以任何形式和手段复制或抄袭本书内容。

书 名: MCSE: NT Workstation 4考试指南(英文原版)

著 者: 〔美〕 Todd Lammle Lisa Donald

印刷者:北京顺义颖华印刷厂

装 订 者: 三河金马印装有限公司

出版发行: 电子工业出版社出版、发行

北京市海淀区万寿路173信箱 邮编: 100036 发行部电话: 68279077 北京市海淀区万寿路甲15号南小楼三层 邮编: 100036 发行部电话: 68215345

URL:http://www.phei.com.cn

经 销: 各地新华书店经销

开 本: 787×1092 1/16 印张: 17.25 字数: 440千字

版 次: 1998年5月第1版 1998年5月第1次印刷

书 号: ISBN 7-5053-4752-7/TP • 2288

定 价: 30.00元

著作权合同登记号 图字: 01-98-0855

凡购买电子工业出版社的图书,如有缺页、倒页、脱页者,本社发行部负责调换版权所有 · 翻版必究

# 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:

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	TCP/IP
	方面的产品	
<u> </u>	码#1、#2等仅为叙述方便,与	

表0.1 MCSE老试内容与可选科目

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

# MSCE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 Server 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官许多。
- •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。

综上诸多优势,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。

2

I would like to dedicate this book to Richard Mumper who gave me my start in 1981 by believing in me when no one else would take the chance with an 18-year-old kid.

-Todd Lammle

For Alvin Tan and Cindy Osborne, thanks for the great start!

-Lisa Donald

# **ACKNOWLEDGMENTS**

his Test Success Book has been a great project to work on. It has been made possible by associate publisher Guy Hart-Davis and acquisitions and developmental editor Bonnie Bills. Bonnie is always willing to lend a helping hand and has been instrumental in developing the scope and content of the Test Success books.

Thanks to Dana Gardner for all of her editing expertise and Ron Reimann who did an excellent job as the technical editor (as always!). Lori Ash and Brenda Frink helped coordinate the project from the Sybex end, thanks for the hard work.

Finally, thanks to Maureen Forys, desktop publisher; Eryn Osterhaus, production coordinator; and Ted Laux, indexer.

This book would not have been possible without the great team contribution.

Intruduction

#### INTRODUCTION

ne of the greatest challenges facing corporate America is finding people who are qualified to manage corporate computer networks. One of the most common operating systems is Windows NT, which requires skill and knowledge to manage. Microsoft has a certification program that shows employers that a candidate is capable of managing complex NT networks. The most highly coveted certification is MCSE or Microsoft Certified Systems Engineer.

Why become an MCSE? The main benefit is that MCSE carries high industry recognition and gives you much greater earning potential. Certification can be your key to a new job, 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, then this book is for you.

# **Your Key to Passing Exam 70-073**

his book provides you with the key to passing Exam 70-073: Implementing and Supporting Windows NT Workstation 4.0. You'll find all the information relevant to this exam, including information on some of the "picky" questions on less frequently used options, and hundreds of practice questions.

#### **Understand the Exam Objectives**

This book is structured according to the MCSE NT Workstation 4.0 objectives. At-a-glance review sections and more than 400 review 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 tangents that are not covered by the exam—this book prepares you for the exam in the shortest amount of time possible.

#### Get Ready for the Real Thing

More than 200 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 Exam at the end of the book, you know that you're ready.

#### Is This Book for You?

his book is intended for those who already have some experience with Microsoft NT. It is especially well suited for:

- Students using courseware or taking a course to prepare for the exam
  who need to supplement their study material with test-based practice
  questions.
- Network engineers who have worked with the product but still need to fill in some holes.
- Anyone who has studied for the exams—using self-study guides, computer-based training, classes, or 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 one 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)**

This is the certification for network professionals. By becoming an MCSE you differentiate yourself from an MCP. This certification is similar to a college degree in that it shows that you can make a commitment to complete all of the steps required for certification and that you meet the high standards required to successfully complete all of the required exams.

Intruduction III

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

- 1. Networking Essentials (waived for Novell CNEs)
- 2. Implementing and Supporting Microsoft Windows NT Workstation 4.0 (or Windows 95)
- 3. Implementing and Supporting Microsoft Windows NT Server 4.0
- **4.** Implementing and Supporting Microsoft Windows NT Server 4.0 in the Enterprise
- 5. Elective
- 6. Elective



The following list applies to the NT 4.0 track. Microsoft still supports a track for 3.51, but 4.0 certification is more desirable because it is the current operating system.

Some of the electives include:

- Internetworking with Microsoft TCP/IP on Microsoft Windows NT 4.0
- Implementing and Supporting Microsoft Internet Information Server 4.0
- Implementing and Supporting Microsoft Exchange Server 5.5
- Implementing and Supporting Microsoft SNA Server 4.0
- Implementing and Supporting Microsoft Systems Management Server
   1.2
- Implementing a Database Design on Microsoft SQL Server 6.5
- System Administration for Microsoft SQL Server 6.5

#### **Microsoft Certified Trainer (MCT)**

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

The MCT certification is more costly because in addition to passing the exams, it requires that you enroll in the official Microsoft courses. You also have to submit an application that must be approved by Microsoft. The number of exams you must pass depends on the number of courses you want to teach.



For the most up-to-date certification information, visit Microsoft's Web site at www.microsoft.com/train\_cert.

# **Understanding Microsoft's Exam Objectives**

To help you prepare for certification exams, Microsoft specifies a list of exam objectives for each test. This book is based on the objectives.

For this exam the objectives were designed to measure your ability to design, install, configure, administrate, and troubleshoot NT Workstation 4.0

when it is part of an enterprise network.

#### Scheduling and Taking an Exam

Once you think you're ready to take an exam, call Prometric Testing Centers at (800) 755-EXAM. They'll tell you where to find the closest testing center. Before you call, get out your credit card because each exam costs \$100. (If you've used this book to prepare yourself thoroughly, chances are you'll only have to shell out that \$100 once!)

You can schedule the exams at your convenience. The exams are downloaded from Prometric to the testing center, and you take the exam on a computer at your scheduled time. When you complete the exam, you find out whether you passed and you receive a score report that lists the seven areas you were tested on and how you performed. Each unit in this book corresponds to one of the seven main objectives. If you do not pass the exam, you'll know from the score report where you did poorly, so you can study that particular unit in the Test Success book more carefully. If you passed the exam, you don't need to do anything else—Prometric uploads the test results to Microsoft.

#### **Test-Taking Hints**

The hints discussed in this section will help you to be a more effective test-taker.

**Get There Early and Be Prepared** This is your last chance to review. Bring your Test Success Book and review any areas you feel unsure of. Also be prepared to show two forms of ID. If you need a quick drink of water or a visit to the restroom, take the time before the exam—you cannot pause the exam in the middle.

What You Can and Can't Take with You The MCSE exams are closed book. The only thing that you can use is scratch paper provided by the testing center. Use this paper as much as possible to diagram the questions; many times, diagramming a question helps make its answer clear. You have to return the scratch paper to the test administrator at the end of the exam.

Many testing centers are very strict about what you can take into the testing room. Some testing centers have gone so far as to forbid you to even take in a zipped-up purse. If you feel tempted to take in any outside material, beware that many testing centers use monitoring devices such as video and audio equipment. (So don't swear, even if you are alone in the room!)

Prometric Testing Centers take the testing process and test validation very seriously.

**What to Expect** When you arrive for your exam, you're asked to present your ID. You're also asked to sign a piece of paper that specifies that you under-

Intruduction V

stand the testing rules; for example, you agree not to cheat on the exam.

Before you start the exam you have an opportunity to take a practice exam. It is not related to NT; it used only so that you get a feel for the exam process.

When you're done with the exam, you receive your score report. You also have an opportunity to evaluate your exam and the testing center.

Best Way to Approach the Test This really depends on the type of test taker you are. I'm of the school that believes you either know the answer or you don't. If you know the answer, answer the question and move on. If you're not sure of the answer, mark your best guess, then mark the question. At the end of the exam, you can view all of your answers or only the questions you have marked—make the decision based on how much time you have left. I always like to double-check all my answers because sometimes I misread the question on the first pass. I also find that a related question might provide the answer for a question that I may have been unsure of.

Be sure to answer all questions. Unanswered questions are scored as incorrect and count against you. Make sure you keep an eye on the remaining time so you can pace yourself accordingly.



One piece of advice: If you have narrowed down the answers to two options, always go with your gut reaction—it is usually correct.

If you do not pass the exam, write down everything you can remember while the exam is still fresh in your mind. This will help you prepare for your next exam. Many times the questions overlap; you don't want to miss the same questions again.

#### After You Become Certified

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

- A one-year subscription to Microsoft Technet, a valuable CD collection that contains Microsoft support information.
- 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 software.
- 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.
- An MCP certificate (you get a certificate for each level of certification you reach), suitable for framing or copying and sending to Mom.
- A one-year subscription to Microsoft Certified Professional Magazine.

which provides information on professional and career development.

#### **Preparing for the MCSE Exams**

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

#### **Courses**

**Instructor-Led** Be very careful when choosing instructor-led courses. The Microsoft training materials do not always have a high correlation with the exam objectives. If your primary goal is to pass the certification exams, this book is an excellent resource because it will fill in holes left by the Microsoft courseware.

**Online** Online training is an alternative to instructor-led training. This is a useful option for people who are prevented geographically from attending instructor-led training.

#### **Self-Study Guides**

If you prefer to use a book to help you prepare for the MCSE tests, you'll find a wide variety available, 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.

#### **Sybex Web Site**

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.

#### **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, then gives you a chance to test your knowledge through Study Questions and a Sample Test.

For each unit:

1. Review the exam objectives list at the beginning of the unit. (You may want to check the Microsoft Train\_Cert Web site to make sure the objectives haven't changed.) There are seven main objectives. They include:

- Planning
- · Installation and Configuration
- · Managing Resources
- Connectivity
- Running Applications
- · Monitoring and Optimization
- Troubleshooting
- 2. Depending on your level of expertise, 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 specified topic. Answers to Study Questions are listed in the Appendix at the back of the book.
- 4. Once you feel sure of your knowledge of the area, take the Sample Test. The Sample Test is formatted in content and style to match the real exam. Instead of asking the "cut-and-dry" questions, you are presented with more scenario-based questions. This will help prepare you for the real exam. Sometimes, half of the battle is in trying to figure out exactly what the question is asking you. Set a time limit based on the number of questions: In general, 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 the Sample Test), you're in good shape. To really prepare, you should note the questions you miss and be able to score 95-100 percent correctly on subsequent tries.
- **5**. After you successfully complete Units 1-7, you're ready for the Final Exam in Unit 8. Allow yourself 90 minutes to complete the test of 55 questions. 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.
- **6**. 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!

# **Table of Contents**

Introduct	tion	
Unit 1	Planning	
	Create Unattended Installation Files	3
	Using the Unattended Answer File with WINNT and WINNT32.	5
	The Uniqueness Database File (UDF)	6
	The Sysdiff Utility	6
	Plan Strategies for Sharing and Securing Resources	7
	Shared Directory Permissions	9
	Choose the Appropriate File System to Use in a Given Situation	10
	NTFS	
	FAT	10
	VFAT	11
	HPFS	11
	Security	11
	Dual-Boot Systems	12
Unit 2	Installation and Configuration	25
	Installing Windows NT Workstation	27
	Installing Windows NT by Using WINNT.EXE	28
	System and Boot Partitions	29
	Dual-Boot Systems	30
	File Systems and Dual-Boot Configurations	30
	Common Dual-Boot Configurations	30
	Configuration of Applications in a Dual-Boot System	30
	Special Issues in a Dual-Boot System	31
	Removing Windows NT Workstation	31
	Removing Windows NT by Deleting the NTFS Partition	31
	Removing Windows NT from a FAT Partition	32
	Instralling, Configuring, and Removing Hardware Components	32
	Network Adapter Drivers	33
	SCSI Devices	33
	Tape Device Drivers	34
	UPS	34
	Multimedia Devices	34
	Display Drivers	35
	Keyboard Drivers	36

	Mouse Drivers	36
	Use Control Panel Applications to Configure a Windows NT	
	Workstation Computer	
	Display	36
	Keyboard	37
	Mouse	38
	Regional Settings	38
	Sounds	38
	Upgrade to Windows NT Workstation 4.0	38
	Configure Server-Based Installation for Wide-Scale Deployment	40
	Copying Installation Files	41
	Creating Unattended Installation Files	41
	Creating a UDF	41
	Connecting to and Accessing the Network	41
	Automate the Installation	42
Unit 3	Managing Resources	55
	Create and Manage Local User Accounts and Local Group Accoun	
	Creating User Accounts	
	Copying User Accounts	
	Groups	
	Granting Dial-In Permission	
	Managing User Accounts	
	Set Up and Modify User Profiles	
	Administrating Profiles	
	Set Up Shared Folders and Permissions	
	Shared Directory Permissions	
	Sharing from the Command Prompt	
	Administrative Shares	
	Set Permissions on NTFS Partitions, Folders, and Files	
	Setting Permissions	
	Taking Ownership of Files and Folders	
	Moving and Copying Files	
	Install and Configure Printers in a Given Environment	
	Printing Devices	
	The NT Print Architecture	
	Graphics Device Interface (GDI)	
	Print Driver	
	Print Router	
	Print Provider (Spooler)	
	FIRE FIDURE SOUDEH	

	Print Processor	73
	Print Monitor	
	Installing Printers	
	Connecting to a Local Printer	
	Connecting to a Remote Printer	
	Printer Configuration	
Unit 4	Connectivity	87
	Adding and Configurin the Network Components of	
	Windows NT Workstation	88
	Microsoft Network Component Architecture	89
	Redirectors	90
	Network Configuration	90
	Using Various Methods to Access Network Resources	92
	Implement Windows NT Workstation as a	
	Client in a NetWare Environment	93
	NetWare Protocols	93
	Ethernet Frame Types	93
	Gateway Services for NetWare (GSNW)	94
	Client Services for NetWare	94
	Printing in CSNW	95
	File and Print Services for NetWare (FPNW)	95
	Using Various Configurations to Install Windows NT	
	Workstation as a TCP/IP Client	95
	TCP/IP Protocols and Definitions	95
	Configuring TCP/IP	96
	Resolving Names	98
	Configuring and Installing Dial-Up Networking (DUN)	98
	Remote Access Service (RAS)	
	Protocols	99
	Installing and Configuring the RASNetworking Client	100
	Telephony API (TAPI) Properties and Phonebooks	101
	Troubleshooting RAS Problems	102
	Multilink (MP)	102
	Configuring Microsoft Peer Web Services	103
	World Wide Web	104
	FTP	
	Gopher	
	Installing Peer Web Services	
	Configuring Peer Web Services	104