MCSE: Windows® 2000 Professional Study Guide, Second Edition

Lisa Donald
with James Chellis

SYBEX®

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To Our Valued Readers:

When Sybex published the first editions of the four core Windows® 2000 MCSE Study Guides, Windows® 2000 had been out for only six months, and the MCSE exams had just been released. In writing the Study Guides, the authors brought to the table their experience with Windows® 2000 as well as insights gained from years of classroom teaching. With the official Microsoft exam objectives as their guides, the authors set out to write comprehensive, yet ultimately clear, concise, and practical courseware. And we believe they succeeded.

Over the past year, however, our authors have learned many new things about how Windows® 2000 works and have received significant and useful feedback about how Microsoft is testing individuals on the vast array of topics encompassed by the four core exams. We at Sybex have also received a tremendous amount of invaluable feedback—both praise and criticism—regarding the four core Windows® 2000 Study Guides. The second edition that you hold in your hand is the product of the feedback that readers such as yourself have provided to us.

So what "new and improved" material will you find in this new edition? We have confidence in the core instructional material in the books, so the authors have made only minor modifications to this content. They have, however, made the chapter review questions and bonus exam questions more challenging, to better reflect the type of questions you'll encounter on the actual exams. We've also added Real World Scenarios throughout the book. This new feature allowed the authors to add critical context and perspective on Windows® 2000 technologies that wasn't available when Microsoft first released the products. Finally, we've added Exam Essentials to the end of each chapter. These re-emphasize those subject areas that are most important for success on the exams.

We believe you'll find this Study Guide to be an indispensable part of your exam prep program. As always, your feedback is important to us. Please send comments, questions, or suggestions to support@sybex.com. At Sybex we're continually striving to meet and exceed the needs of individuals preparing for IT certification exams. Readers like you are critical to these efforts.

Good luck in pursuit of your MCSE!

Neil Edde
Associate Publisher—Certification
Sybex, Inc.

Software License Agreement: Terms and Conditions

For Kevin. You are the best!

Acknowledgments

This book is the result of a great team. First, I'd like to thank Carol Henry (on the second edition) and Marilyn Smith (on the first edition), who both did a tremendous job of translating my writing into a form that is very readable. Marilyn and Carol put in countless hours and worked through my many revisions as the book evolved. In addition, they were both super people to work with.

I'd also like to thank the team that made this book possible. Thanks to James Chellis for allowing me to work on the MCSE series. James is a visionary and is my business idol. Neil Edde, the Associate Publisher for this series, has nurtured the MCSE since the early days. Jeff Kellum, the Acquisitions and Developmental Editor, is always fun to work with (even though he can be a slave driver at times). Shannon Murphy, the Production Editor, somehow managed to keep this project on track, which was not always an easy task.

Michelle Roudebush and Donald Fuller worked as the Technical Editors. They did a great job of keeping me honest and minimizing any errors within the book. Any errors missed by the editor and technical editors were caught by the book's proofreaders: Judith Hibbard, Emily Hsuan, Nelson Kim, Laurie O'Connell, Yariv Rabinovitch, and Nancy Riddiough. Tony Jonick developed the artwork from my drawings. Nila Nichols worked as the Electronic Publishing Specialist. Christine Harris and Kevin Ly managed and created content for the accompanying CD. Matthew Sheltz worked very hard on the CD test engine and is also very appreciated. Without the great work of the team, this book would not have been possible.

On the local front, I'd like to thank Martina Fiserova, who keeps my life sane. Without her, I'd never get anything done. I'd also like to thank my family for always supporting me.

Introduction

Microsoft's Microsoft Certified Systems Engineer (MCSE) track for Windows 2000 is the premier certification for computer industry professionals. Covering the core technologies around which Microsoft's future will be built, the MCSE Windows 2000 program is a powerful credential for career advancement.

This book has been developed to give you the critical skills and knowledge you need to prepare for one of the core requirements of the new MCSE certification program: *Installing, Configuring, and Administering Microsoft Windows 2000 Professional* (Exam 70-210).

The Microsoft Certified Professional Program

Since the inception of its certification program, Microsoft has certified over one million people. As the computer network industry grows in both size and complexity, these numbers are sure to grow—and the need for *proven* ability will also increase. Companies rely on certifications to verify the skills of prospective employees and contractors.

Microsoft has developed its Microsoft Certified Professional (MCP) program to give you credentials that verify your ability to work with Microsoft products effectively and professionally. Obtaining your MCP certification requires that you pass any one Microsoft certification exam. Several levels of certification are available based on specific suites of exams. Depending on your areas of interest or experience, you can obtain any of the following MCP credentials:

Microsoft Certified System Engineer (MCSE)   This certification track is designed for network and systems administrators, network and systems analysts, and technical consultants who work with Microsoft Windows 2000 client and server software. You must take and pass seven exams to obtain your MCSE.

Since this book covers one of the Core MCSE exams, we will discuss the MCSE certification in detail in this Introduction.

Microsoft Certified Solution Developer (MCSD) This track is designed for software engineers and developers and technical consultants who primarily use Microsoft development tools. Currently, you can take exams on Visual Basic, Visual C++, and Visual FoxPro. However, with Microsoft's pending release of Visual Studio 7, you can expect the requirements for this track to change by the end of 2001. You must take and pass four exams to obtain your MCSD.

Microsoft Certified Database Administrator (MCDBA) This track is designed for database administrators, developers, and analysts who work with Microsoft SQL Server. As of this printing, you can take exams on either SQL Server 7 or SQL Server 2000, but Microsoft is expected to announce the retirement of SQL Server 7. You must take and pass four exams to achieve MCDBA status.

Microsoft Certified Trainer (MCT) The MCT track is designed for any IT professional who develops and teaches Microsoft-approved courses. To become an MCT, you must first obtain your MCSE, MCSD, or MCDBA; then you must take a class at one of the Certified Technical Training Centers. You will also be required to prove your instructional ability. You can do this in various ways: by taking a skills-building or train-the-trainer class; by achieving certification as a trainer from any of a number vendors; or by becoming a Certified Technical Trainer through the Chauncey Group (`www.chauncey.com/ctt.html`). Last of all, you will need to complete an MCT application.

As of March 1, 2001, Microsoft no longer offers MCSE NT 4 required exams. Those who are certified in NT 4 have until December 31, 2001, to upgrade their credentials to Windows 2000. Also, Microsoft has retired three other certification tracks: MCP+Internet, MCSE+Internet, and MCP+Site Builder. The topics and concepts that are tested in these certifications have been incorporated into the MCSE and MCSD exams.

Windows 2000

Over the next few years, companies around the world will deploy millions of copies of Windows 2000 as the central operating system for their mission-critical networks. This will generate an enormous need for qualified consultants and personnel who can design, deploy, and support Windows 2000 networks.

Because Windows 2000 is such a vast product, its administrators must have a wealth of professional skills. As an example of Windows 2000's complexity, consider it has more than 35 million lines of code as compared with Windows NT 4's 12 million! Much of this code is needed to support the wide range of functionality that Windows 2000 offers.

The Windows 2000 line comprises several versions:

Windows 2000 Professional   This is the client edition of Windows 2000, which is comparable to Windows NT Workstation 4 but also includes the best features of Windows 98, as well as many new features.

Windows 2000 Server/Windows 2000 Advanced Server   A server edition of Windows 2000, this version is for small to midsized deployments. Advanced Server supports more memory and processors than Server does.

Windows 2000 Datacenter Server   This is a server edition of Windows 2000 for large, widescale deployments and computer clusters. Datacenter Server supports the most memory and processors of the three versions.

Companies implementing the expansive Windows 2000 operating system want to be certain that you are the right person for the job being offered. The MCSE track is designed to help you prove that you are.

How Do You Become an MCSE?

Attaining MCSE certification has always been a challenge. In the past, students have been able to acquire detailed exam information—even most of the exam questions—from online "brain dumps" and third-party "cram" books or software products. For the new MCSE exams, this is simply not the case.

Microsoft has taken strong steps to protect the security and integrity of the new MCSE track. Now, prospective MCSEs must complete a course of study that develops detailed knowledge about a wide range of topics. It supplies them with the true skills needed, derived from working with Windows 2000 and related software products.

The new MCSE program is heavily weighted toward hands-on skills and experience. Microsoft has stated that "nearly half of the core required exams' content demands that the candidate have troubleshooting skills acquired through hands-on experience and working knowledge."

Fortunately, if you are willing to dedicate the time and effort to learn Windows 2000, you can prepare yourself well for the exams by using the proper tools. By working through this book, you can successfully meet the exam requirements.

This book is part of a complete series of Sybex MCSE Study Guides, published by Sybex Inc., that together cover the core Windows 2000 requirements as well as the new Design exams needed to complete your MCSE track. Study Guide titles include the following:

- *MCSE: Windows 2000 Professional Study Guide,* Second Edition, by Lisa Donald with James Chellis (Sybex, 2001)

- *MCSE: Windows 2000 Server Study Guide,* Second Edition, by Lisa Donald with James Chellis (Sybex, 2001)

- *MCSE: Windows 2000 Network Infrastructure Administration Study Guide,* Second Edition, by Paul Robichaux with James Chellis (Sybex, 2001)

- *MCSE: Windows 2000 Directory Services Administration Study Guide,* Second Edition, by Anil Desai with James Chellis (Sybex, 2001)

- *MCSE: Windows 2000 Network Security Design Study Guide,* by Gary Govanus and Robert King (Sybex, 2000)

- *MCSE: Windows 2000 Network Infrastructure Design Study Guide,* by Bill Heldman (Sybex, 2000)

- *MCSE: Windows 2000 Directory Services Design Study Guide,* by Robert King and Gary Govanus (Sybex, 2000)

Exam Requirements

Candidates for MCSE certification in Windows 2000 must pass seven exams, including four core operating system exams, one design exam, and two electives, as described in the sections that follow.

Core Requirements

Windows 2000 Professional (70-210)

Windows 2000 Server (70-215)

Windows 2000 Network Infrastructure Administration (70-216)

Windows 2000 Directory Services Administration (70-217)

Plus one of the following

Design Requirement

Designing a Windows 2000 Directory Services Infrastructure (70-219)

Designing Security for a Windows 2000 Network (70-220)

Designing a Windows 2000 Network Infrastructure (70-221)

Designing Web Solutions with Windows 2000 Server Technologies (70-226)

Plus two of the following

Electives

Any of the Design exams not taken for the Design requirement

Any current Elective exam. Topics include Exchange Server, SQL Server, and ISA Server.

NOTE   For a more detailed description of the Microsoft certification programs, including a list of current and future MCSE electives, check Microsoft's Training and Certification Web site at www.microsoft.com/trainingandservices.

The *Installing, Configuring, and Administering Microsoft Windows 2000 Professional* Exam

The Windows 2000 Professional exam covers concepts and skills related to installing, configuring, and managing Windows 2000 Professional computers. It emphasizes the following elements of Windows 2000 Professional support:

- Installing Windows 2000 Professional

- Implementing and administering resources

- Implementing, managing, and troubleshooting resources

- Monitoring and optimizing system performance and reliability

- Configuring and troubleshooting the Desktop environment

- Implementing, managing, and troubleshooting network protocols and services

- Implementing, monitoring, and troubleshooting security

This exam is quite specific regarding Windows 2000 Professional requirements and operational settings, and it can be particular about how administrative tasks are performed within the operating system. It also focuses on fundamental concepts of Windows 2000 Professional's operation. Careful study of this book, along with hands-on experience, will help you to prepare for this exam.

Microsoft provides exam objectives to give you a very general overview of possible areas of coverage on the Microsoft exams. For your convenience, this Study Guide includes objective listings positioned within the text at points where specific Microsoft exam objectives are discussed. Keep in mind, however, that exam objectives are subject to change at any time without prior notice and at Microsoft's sole discretion. Please visit Microsoft's Training and Certification Web site (www.microsoft.com/trainingandservices) for the most current listing of exam objectives.

Types of Exam Questions

In an effort to both refine the testing process and protect the quality of its certifications, Microsoft has focused its Windows 2000 exams on real experience and hands-on proficiency. There is a higher emphasis on your past working environments and responsibilities, and less emphasis on how well you can memorize. In fact, Microsoft says an MCSE candidate should have at least one year of hands-on experience.

Microsoft will accomplish its goal of protecting the exams' integrity by regularly adding and removing exam questions, limiting the number of questions that any individual sees in a beta exam, limiting the number of questions delivered to an individual by using adaptive testing, and adding new exam elements.

Exam questions may be in a variety of formats: Depending on which exam you take, you'll see multiple-choice questions, as well as select-and-place and prioritize-a-list questions. Simulations and case study–based formats are included, as well. You may also find yourself taking what's called an *adaptive format exam*. Let's take a look at the types of exam questions and examine the adaptive testing technique, so that you'll be prepared for all of the possibilities.

With the release of Windows 2000, Microsoft has stopped providing a detailed score breakdown. This is mostly because of the various and complex question formats. Previously, each question focused on one objective. The Windows 2000 exams, however, contain questions that may be tied to one or more objectives from one or more objective sets. Therefore, grading by objective is almost impossible.

For more information on the various exam question types, go to www.microsoft.com/trainingandservices/default.asp?PageID= mcp&PageCall=tesinn&SubSite=examinfo.

MULTIPLE-CHOICE QUESTIONS

Multiple-choice questions come in two main forms. One is a straightforward question followed by several possible answers, of which one or more is correct. The other type of multiple-choice question is more complex and based on a specific scenario. The scenario may focus on a number of areas or objectives.

SELECT-AND-PLACE QUESTIONS

Select-and-place exam questions involve graphical elements that you must manipulate in order to successfully answer the question. For example, you might see a diagram of a computer network, as shown in the following graphic taken from the select-and-place demo downloaded from Microsoft's Web site.
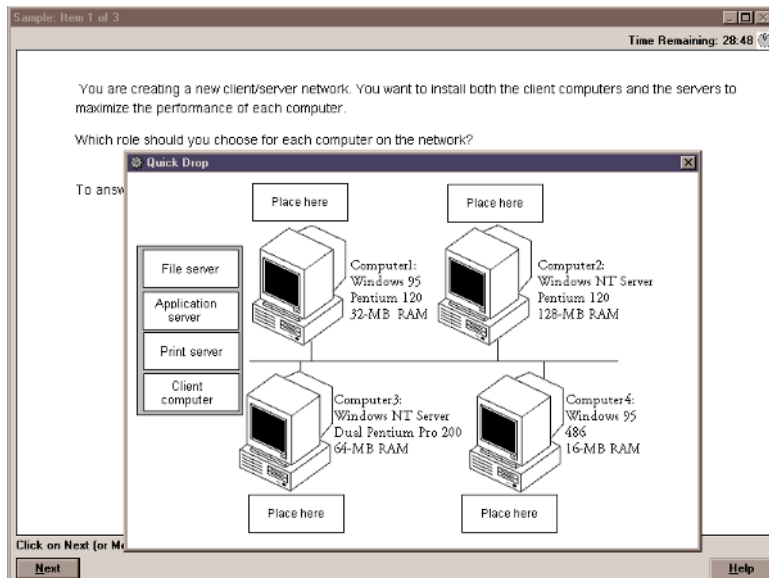
A typical diagram will show computers and other components next to boxes that contain the text "Place here." The labels for the boxes represent various computer roles on a network, such as a print server and a file server. Based on information given for each computer, you are asked to select each label and place it in the correct box. You need to place *all* of the labels correctly. No credit is given for the question if you correctly label only some of the boxes.

In another select-and-place problem you might be asked to put a series of steps in order, by dragging item from boxes on the left to boxes on the right, and placing them in the correct order. One other type requires that you drag an item from the left and place it under an item in a column on the right.

SIMULATIONS

Simulations are the kinds of questions that most closely represent actual situations and test the skills you use while working with Microsoft software interfaces. These exam questions include a mock interface on which you are asked to perform certain actions according to a given scenario. The simulated interfaces look nearly identical to what you see in the actual product, as shown in this example:
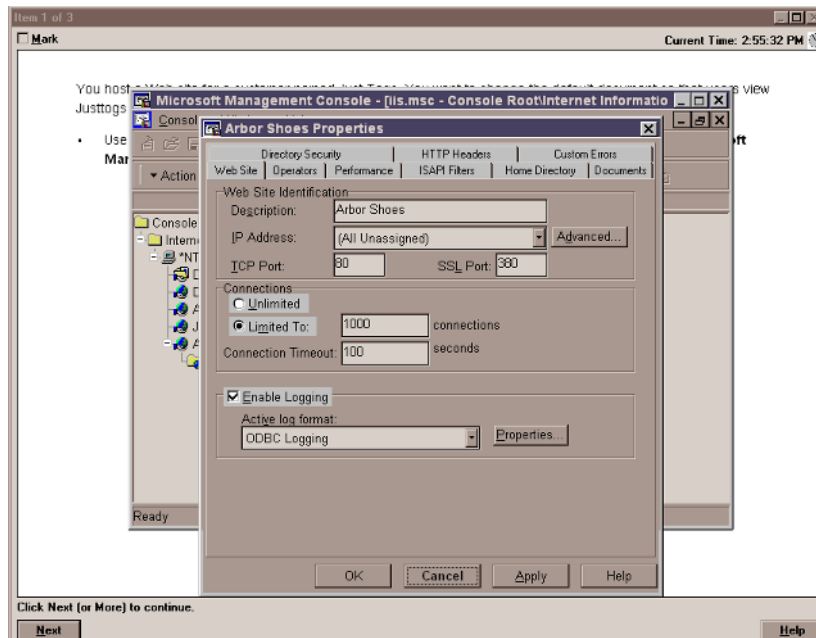
Because of the number of possible errors that can be made on simulations, be sure to consider the following recommendations from Microsoft:

- Do not change any simulation settings that don't pertain to the solution directly.

- When related information has not been provided, assume that the default settings are used.

- Make sure that your entries are spelled correctly.

- Close all the simulation application windows after completing the set of tasks in the simulation.

The best way to prepare for simulation questions is to spend time working with the graphical interface of the product on which you will be tested.

We recommend that you study with the WinSim 2000 product, which is included on the CD that accompanies this study guide. By completing the exercises in this study guide and working with the WinSim 2000 software, you will greatly improve your level of preparation for simulation questions.

CASE STUDY–BASED QUESTIONS

Case study–based questions first appeared in the MCSD program. These questions present a scenario with a range of requirements. Based on the information provided, you answer a series of multiple-choice and select-and-place questions. The interface for case study–based questions has a number of tabs, each of which contains information about the scenario.

At present, this type of question appears only in most of the Design exams.

ADAPTIVE EXAM FORMAT

Microsoft presents many of its exams in an *adaptive* format. This format is radically different from the conventional format previously used for Microsoft certification exams. Conventional tests are static, containing a fixed number of questions. Adaptive tests change depending on your answers to the questions presented.

The number of questions presented in your adaptive test will depend on how long it takes the exam to ascertain your level of ability (according to the statistical measurements on which exam questions are ranked). To determine a test-taker's level of ability, the exam presents questions in an increasing or decreasing order of difficulty.

WARNING

Unlike the earlier test format, the adaptive test does *not* allow you to go back to see a question again. The exam only goes forward. Once you enter your answer, that's it—you cannot change it. Be very careful before entering your answers. There is no time limit for each individual question (only for the exam as a whole). Your exam may be shortened by correct answers (and lengthened by incorrect answers), so there is no advantage to rushing through questions.

NOTE

Microsoft will regularly add and remove questions from the exams. This is called *item seeding*. It is part of the effort to make it more difficult for individuals to merely memorize exam questions that were passed along by previous test-takers.

Exam Question Development

Microsoft follows an exam-development process consisting of eight mandatory phases. The process takes an average of seven months and involves more than 150 specific steps. The MCP exam development consists of the following phases:

Phase 1: Job Analysis Phase 1 is an analysis of all the tasks that make up a specific job function, based on tasks performed by people who are currently performing that job function. This phase also identifies the knowledge, skills, and abilities that relate specifically to the performance area being certified.

Phase 2: Objective Domain Definition The results of the job analysis phase provide the framework used to develop objectives. Development of objectives involves translating the job-function tasks into a comprehensive package of specific and measurable knowledge, skills, and abilities. The resulting list of objectives—the *objective domain*—is the basis for the development of both the certification exams and the training materials.

Phase 3: Blueprint Survey   The final objective domain is transformed into a blueprint survey in which contributors are asked to rate each objective. These contributors may be MCP candidates, appropriately skilled exam-development volunteers, or Microsoft employees. Based on the contributors' input, the objectives are prioritized and weighted. The actual exam items are written according to the prioritized objectives. Contributors are queried about how they spend their time on the job. If a contributor doesn't spend an adequate amount of time actually performing the specified job function, his or her data are eliminated from the analysis. The blueprint survey phase helps determine which objectives to measure, as well as the appropriate number and types of items to include on the exam.

Phase 4: Item Development   A pool of items is developed to measure the blueprinted objective domain. The number and types of items to be written are based on the results of the blueprint survey.

Phase 5: Alpha Review and Item Revision   During this phase, a panel of technical and job-function experts review each item for technical accuracy. The panel then answers each item and reaches a consensus on all technical issues. Once the items have been verified as being technically accurate, they are edited to ensure that they are expressed in the clearest language possible.

Phase 6: Beta Exam   The reviewed and edited items are collected into beta exams. Based on the responses of all beta participants, Microsoft performs a statistical analysis to verify the validity of the exam items and to determine which items will be used in the certification exam. Once the analysis has been completed, the items are distributed into multiple parallel forms, or *versions*, of the final certification exam.

Phase 7: Item Selection and Cut-Score Setting   The results of the beta exams are analyzed to determine which items will be included in the certification exam. This determination is based on many factors, including item difficulty and relevance. During this phase, a panel of job-function experts determine the *cut score* (minimum passing score) for the exams. The cut score differs from exam to exam because it is based on an item-by-item determination of the percentage of candidates who answered the item correctly and who would be expected to answer the item correctly.

Phase 8: Live Exam   In the final phase, the exams are given to candidates. MCP exams are administered by Prometric and Virtual University Enterprises (VUE).

Tips for Taking the Windows 2000 Professional Exam

Here are some general tips for achieving success on your certification exam:

- Arrive early at the exam center so that you can relax and review your study materials. During this final review, you can look over tables and lists of exam-related information.

- Read the questions carefully. Don't be tempted to jump to an early conclusion. Make sure you know *exactly* what the question is asking.

- Answer all questions. Remember that the adaptive format does *not* allow you to return to a question. Be very careful before entering your answer. Because your exam may be shortened by correct answers (and lengthened by incorrect answers), there is no advantage to rushing through questions.

- On simulations, do not change settings that are not directly related to the question. Also, assume default settings if the question does not specify or imply which settings are used.

- For questions you're not sure about, use a process of elimination to get rid of the obviously incorrect options first. This improves your odds of selecting the correct answer when you need to make an educated guess.

Exam Registration

You may take the Microsoft exams at any of more than 1,000 Authorized Prometric Testing Centers (APTCs) and VUE Testing Centers around the world. For the location of a testing center near you, call Prometric at 800-755-EXAM (755-3926), or call VUE at 888-837-8616. Outside the United States and Canada, contact your local Prometric or VUE registration center.

Find out the number of the exam you want to take, and then register with the Prometric or VUE registration center nearest to you. At this point, you will be asked for advance payment for the exam. The exams are $100 each and you must take them within one year of payment. You can schedule exams up to six weeks in advance or as late as one working day prior to the date of the exam. You can cancel or reschedule your exam if you contact the center at least two working days prior to the exam. Same-day registration is available in some locations, subject to space availability. Where same-day registration is available, you must register a minimum of two hours before test time.

You may also register for your exams online at www.prometric.com or www.vue.com.

When you schedule the exam, you will be provided with instructions regarding appointment and cancellation procedures, ID requirements, and information about the testing center location. In addition, you will receive a registration and payment confirmation letter from Prometric or VUE.

Microsoft requires certification candidates to accept the terms of a Non-Disclosure Agreement before taking certification exams.

Is This Book for You?

If you want to acquire a solid foundation in Windows 2000 Professional, and your goal is to prepare for the exam by learning how to use and manage the new operating system, this book is for you. You'll find clear explanations of the fundamental concepts you need to grasp, and plenty of help to achieve the high level of professional competency you need to succeed in your chosen field.

If you want to become certified as an MCSE, this book is definitely for you. However, if you just want to attempt to pass the exam without really understanding Windows 2000, this Study Guide is *not* for you. It is written for people who want to acquire hands-on skills and in-depth knowledge of Windows 2000.

How to Use This Book

What makes a Sybex Study Guide the book of choice for over 100,000 MCSEs? We took into account not only what you need to know to pass the exam, but what you need to know to take what you've learned and apply it in the real world. Each book contains the following:

Objective-by-objective coverage of the topics you need to know Each chapter lists the objectives covered in that chapter, followed by detailed discussion of each objective.

Assessment Test   Directly following this Introduction is an Assessment Test that you should take. It is designed to help you determine how much you already know about Windows 2000. Each question is tied to a topic discussed in the book. Using the results of the Assessment test, you can figure out the areas where you need to focus your study. Of course, we do recommend you read the entire book.

Exam Essentials   To highlight what you learn, you'll find a list of Exam Essentials at the end of each chapter. The Exam Essentials section briefly highlights the topics that need your particular attention as you prepare for the exam.

Key Terms and Glossary   Throughout each chapter, you will be introduced to important terms and concepts that you will need to know for the exam. These terms appear in italic within the chapters, and a list of the Key Terms appears just after the Exam Essentials. At the end of the book, a detailed Glossary gives definitions for these terms, as well as other general terms you should know.

Review questions, complete with detailed explanations   Each chapter is followed by a set of Review Questions that test what you learned in the chapter. The questions are written with the exam in mind, meaning that they are designed to have the same look and feel of what you'll see on the exam. Question types are just like the exam, including multiple choice, exhibits, select-and-place, and prioritize-a-list.

Hands-on exercises   In each chapter, you'll find exercises designed to give you the important hands-on experience that is critical for your exam preparation. The exercises support the topics of the chapter, and they walk you through the steps necessary to perform a particular function.

Real World Scenarios   Because reading a book isn't enough for you to learn how to apply these topics in your everyday duties, we have provided Real World Scenarios in special sidebars. These explain when and why a particular solution would make sense, in a working environment you'd actually encounter.

Interactive CD   Every Sybex Study Guide comes with a CD complete with additional questions, flashcards for use with a palm device, a Windows simulation program, and two complete electronic books. Details are in the following section.

> **NOTE**   The topics covered in this Study Guide map directly to Microsoft's official exam objectives. Each exam objective is covered completely.

What's on the CD?

With this new member of our best-selling MCSE Study Guide series, we are including quite an array of training resources. The CD offers numerous simulations, bonus exams, and flashcards to help you study for the exam. We have also included the complete contents of the Study Guide in electronic form. The CD's resources are described here:

The Sybex Ebook for Windows 2000 Professional   Many people like the convenience of being able to carry their whole Study Guide on a CD. They also like being able to search the text via computer to find specific information quickly and easily. For these reasons, the entire contents of this Study Guide are supplied on the CD, in PDF format. We've also included Adobe Acrobat Reader, which provides the interface for the PDF contents as well as the search capabilities.

WinSim 2000   We developed the WinSim 2000 product to allow you to experience the multimedia and interactive operation of working with Windows 2000 Professional. WinSim 2000 provides both audio/video files and hands-on experience with key features of Windows 2000 Professional. Built around the Study Guide's exercises, WinSim 2000 will help you attain the knowledge and hands-on skills that you must have in order

to understand Windows 2000 Professional (and pass the exam). Here is a sample screen from WinSim 2000:

The Sybex MCSE EdgeTests   The EdgeTests are a collection of multiple-choice questions that will help you prepare for your exam. The questions are grouped into seven sets:

- The Assessment Test.

- Two bonus exams designed to simulate the actual live exam.

- All the questions from the Study Guide organized by chapter for your review.

- All the questions from the Study Guide, plus the two bonus exams, organized by objective area for your review.

- A random test generator that selects up to 75 questions from all of the questions listed above.

- An adaptive test simulator that will give you the feel for how adaptive testing works.

Here is a sample screen from the Sybex MCSE EdgeTests:
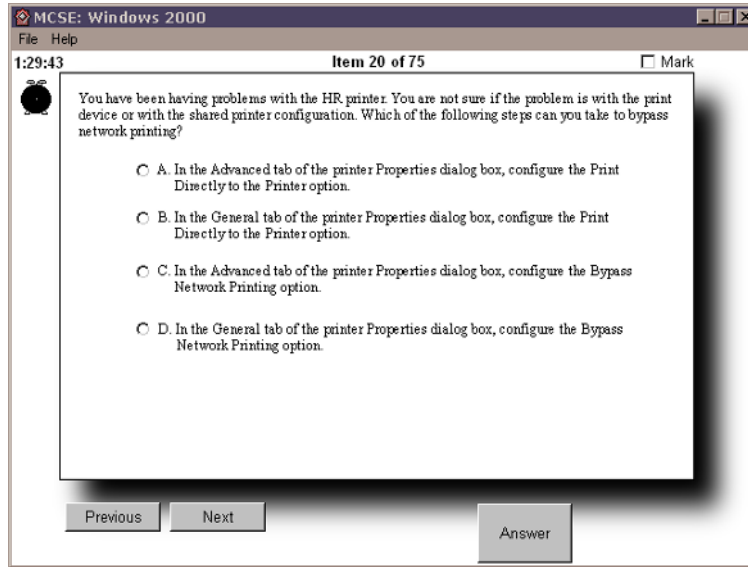
Sybex MCSE Flashcards for PCs and Palm Devices The "flashcard" style of question offers an effective way to quickly and efficiently test your understanding of the fundamental concepts covered in the exam. The Sybex MCSE Flashcards set consists of more than 150 questions presented in a special engine developed specifically for this Study Guide series. Here's what the Sybex MCSE Flashcards interface looks like:
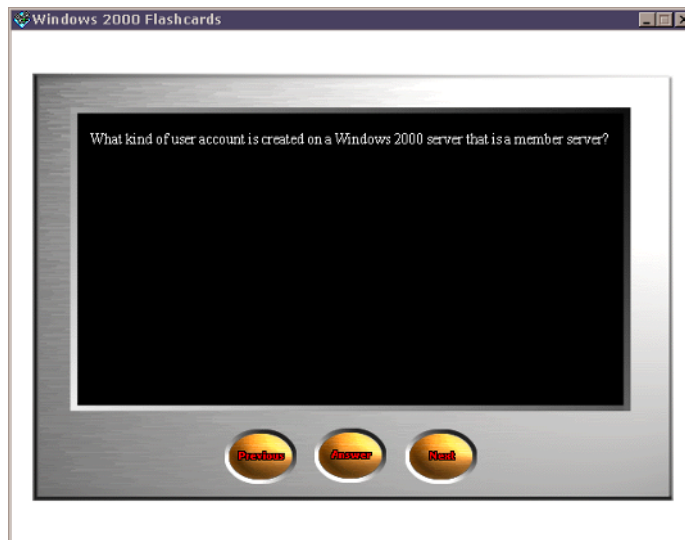
Because of the high demand for a product that will run on palm devices, we have also developed, in conjunction with Land-J Technologies, a version of the flashcard questions that you can take with you on your Palm OS PDA (including the PalmPilot and Handspring's Visor).

How Do You Use This Book?

This book provides a solid foundation for the serious effort of preparing for the exam. To best benefit from this book, you may wish to use the following study method:

1. Take the Assessment Test to identify your weak areas.

2. Study each chapter carefully. Do your best to fully understand the information.

3. Complete all the hands-on exercises in the chapter, referring back to the text as necessary so that you understand each step you take. If you don't have access to a lab environment in which you can complete the exercises, install and work with the exercises available in the Win-Sim 2000 software included with this Study Guide.

> **NOTE** To do the exercises in this book, your hardware should meet the minimum hardware requirements for Windows 2000 Professional. See Chapter 1 for the minimum and recommended system requirements.

4. Read over the Real World Scenarios to improve your understanding of how to use what you learn in the book.

5. Study the Exam Essentials and Key Terms to make sure you are familiar with the areas you need to focus on.

6. Answer the review questions at the end of each chapter. If you prefer to answer the questions in a timed and graded format, install the EdgeTests from the book's CD and answer the chapter questions there instead of in the book.

7. Take note of the questions you did not understand, and study the corresponding sections of the book again.

8. Go back over the Exam Essentials and Key Terms.

9. Go through the Study Guide's other training resources, which are included on the book's CD. These include WinSim 2000, electronic flashcards, the electronic version of the chapter review questions (try taking them by objective), and the two bonus exams.

To learn all the material covered in this book, you will need to study regularly and with discipline. Try to set aside the same time every day to study, and select a comfortable and quiet place in which to do it. If you work hard, you will be surprised at how quickly you learn this material. Good luck!

Contacts and Resources

To find out more about Microsoft Education and Certification materials and programs, to register with Prometric or VUE, or to obtain other useful certification information and additional study resources, check the following resources:

Microsoft Training and Certification Home Page
www.microsoft.com/trainingandservices

This Web site provides information about the MCP program and exams. You can also order the latest Microsoft Roadmap to Education and Certification.

Microsoft TechNet Technical Information Network
www.microsoft.com/technet
800-344-2121

Use this Web site or phone number to contact support professionals and system administrators. Outside the United States and Canada, contact your local Microsoft subsidiary for information.

Palm Pilot Training Product Development: Land-J
www.land-j.com
407-359-2217

Land-J Technologies is a consulting and programming business currently specializing in application development for the 3Com PalmPilot Personal Digital Assistant. Land-J developed the Palm version of the Flashcards, which is included on the CD that accompanies this Study Guide.

Prometric
www.prometric.com
800-755-3936

Contact Prometric to register to take an MCP exam at any of more than 800 Prometric Testing Centers around the world.

Virtual University Enterprises (VUE)
www.vue.com
888-837-8616

Contact the VUE registration center to register to take an MCP exam at one of the VUE Testing Centers.

MCP Magazine Online
www.mcpmag.com

Microsoft Certified Professional Magazine is a well-respected publication that focuses on Windows certification. This site hosts chats and discussion forums, and tracks news related to the MCSE program. Some of the services cost a fee, but they are well worth it.

Windows 2000 Magazine
www.windows2000mag.com

You can subscribe to this magazine or read free articles at the Web site. The study resource provides general information on Windows 2000.

Cramsession on Brainbuzz.com
cramsession.brainbuzz.com

Cramsession is an online community focusing on all IT certification programs. In addition to discussion boards and job locators, you can download one of a number of free cramsessions, which are nice supplements to any study approach you take.

Assessment Test

1. What extension is applied by default to custom consoles that are created for the MMC?

   A. .mmc

   B. .msc

   C. .con

   D. .mcn

2. Which users are able to manage mandatory profiles on Windows 2000 Professional computers?

   A. The user who uses the profile

   B. Server Operators

   C. Power Users

   D. Administrators

3. Which MMC snap-in would you load to access System Monitor?

   A. System Monitor

   B. Performance Monitor

   C. ActiveX Control

   D. Performance Logs and Alerts

4. If you wanted only users with valid usernames and passwords to have access to a specific resource, to which of the following groups would you assign permissions?

   A. Domain Users

   B. Users

   C. Everyone

   D. Authenticated Users

5. Which of the following options cannot be configured as a part of an answer file?

   A. Display settings

   B. Network settings

   C. Time zone

   D. Screen saver

6. Which of the following print permissions are applied to the Power Users group by default on shared Windows 2000 Professional printers? Choose all that apply.

   A. No permissions are granted automatically

   B. Print

   C. Manage Printers

   D. Manage Documents

7. Which accessibility utility is used to read aloud screen text, such as the text in dialog boxes, menus, and buttons?

   A. Read-Aloud

   B. Orator

   C. Dialog Manager

   D. Narrator

8. Which option within the Windows 2000 Professional upgrade process gives a summary of likely problems with the upgrade?

   A. The Troubleshooting Guide

   B. The Compatibility Issues Report

   C. The Upgrade Report

   D. The Professional Upgrade Status Report