Exam Preparation Tips

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This appendix contains material from the Microsoft Certified Professional Program Exam Study Guide (Microsoft Corporation, 1997), reprinted with permission. The complete version of this study guide is included on the compact disc accompanying this book. To view it, follow the instructions contained in Appendix H.

The Microsoft Certified Professional Exams are *not* easy, and require a great deal of preparation. The exam questions measure real-world skills. Your ability to answer these questions correctly will be greatly enhanced by as much hands-on experience with the product as you can get. Appendix F provides some practical and innovative ways for you to prepare for the Microsoft Certified Professional Exams for Windows NT Workstation 4.0, Windows NT Server 4.0, and Windows NT Server 4.0 in the Enterprise.

About The Exams

An important aspect of passing the MCP Certification Exams is understanding the big picture. This includes understanding how the exams are developed and scored.

Every job function requires different levels of cognitive skills, from memorization of facts and definitions to the comprehensive ability to analyze scenarios, design solutions,

and evaluate options. To make the exams relevant in the real world, Microsoft Certified Professional exams test the specific cognitive skills needed for the job functions being tested. These exams go beyond testing rote knowledge — you need to *apply* your knowledge, analyze technical solutions, solve problems, and make decisions — just like you would on the job.

How the Certification Exams Are Developed

To help ensure the validity and reliability of the certification exams, Microsoft adheres to an eight-phase exam development process:

1. Job analysis
2. Objective domain definition
3. Blueprint survey
4. Item development
5. Alpha review and item revision
6. Beta exam
7. Item selection and cut-score setting
8. Exam live

The following paragraphs describe each phase of exam development.

Phase 1: Job analysis

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

Phase 2: Objective domain definition

The results of the job analysis provide the framework used to develop objectives. The development of objectives involves translating the job function tasks into a comprehensive set of more specific and measurable knowledge, skills, and abilities. The resulting list of objectives, or 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—technology professionals who are performing the applicable job function—are asked to rate each objective. Contributors may be selected from lists of past Certified Professional candidates, from appropriately skilled exam development volunteers, and from within Microsoft. Based on the contributors' input, the objectives are prioritized and weighted. The actual exam items are written according to these prioritized objectives. Contributors are queried about how they spend their time on the job, and if a contributor doesn't spend an adequate amount of time actually performing the specified job function, his or her data is 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. During this phase, items are reviewed and revised to ensure that they are:

- Technically accurate
- Clear, unambiguous, and plausible
- Not biased for any population subgroup or culture
- Not misleading or tricky
- Testing at the correct level of Bloom's Taxonomy
- Testing for useful knowledge, not obscure or trivial facts

Items that meet these criteria are included in the initial item pool.

Phase 5: Alpha review and item revision

During this phase, a panel of technical and job function experts reviews each item for technical accuracy and then answers each item, reaching consensus on all technical issues. Once the items have been verified as 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 a beta exam pool. During the beta

exam, each participant has the opportunity to respond to all the items in this beta exam pool. 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 exam are analyzed to determine which items should be included in the certification exam based on many factors, including item difficulty and relevance. Generally, the desired items are those that were answered correctly by anywhere from 25 to 90 percent of the beta exam candidates. This helps ensure that the exam consists of a variety of difficulty levels, from somewhat easy to extremely difficult.

Also during this phase, a panel of job function experts determines the cut score (minimum passing score) for the exam. 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. The cut score is determined in a group session to increase the reliability among the experts.

Phase 8: Exam live

Microsoft Certified Professional exams are administered by Sylvan Prometric™, an independent testing company. The exams are made available at Sylvan Prometric testing centers worldwide.

Exam Items and Scoring

Microsoft certification exams consist of three types of items: multiple-choice, multiple-rating, and enhanced. The way you indicate your answer and the number of points you can receive differ depending on the type of item.

Multiple-choice item

A traditional multiple-choice item presents a problem and asks you to select either the best answer (single response) or the best set of answers (multiple response) to the given item from a list of possible answers.

For a multiple-choice item, your response is scored as either correct or incorrect. A correct answer receives a score of 1 point and an incorrect answer receives a score of 0 points.

In the case of a multiple-choice, multiple-response item (for which the correct response consists of more than one answer), the item is scored as being correct only if all the correct answers are selected. No partial credit is given for a response that does not include all the correct answers for the item.

For consistency purposes, the question in a multiple-choice, multiple-response item is always presented in singular form, regardless of how many answers are correct. Always follow the instructions displayed at the bottom of the window.

Multiple-rating item

A multiple-rating item presents a task similar to those presented in multiple-choice items. In a multiple-choice item, you are asked to select the best answer or answers from a selection of several potential answers. In contrast, a multiple-rating item presents a task, along with a proposed solution. Each time the task is presented, a different solution is proposed. In each multiple-rating item, you are asked to choose the answer that best describes the results produced by one proposed solution.

concept link   To view an example of a multiple rating item, follow the instructions in Appendix H to access the entire *Microsoft Certified Professional Program Exam Study Guide* on the compact disc accompanying this book. See the "Multiple-rating item" section.

Enhanced item

An enhanced item is similar to a multiple-choice item because it asks you to select your response from a number of possible responses. However, unlike the traditional multiple-choice item that presents you with a list of possible answers from which to choose, an enhanced item may ask you to indicate your answer in one of three ways:

○ Type the correct response, such as a command name.

○ Review an exhibit (such as a screen shot, a network configuration drawing, or a code sample), and then use the mouse to select the area of the exhibit that represents the correct response.

- Review an exhibit, and then select the correct response from the list of possible responses.

As with a multiple-choice item, your response to an enhanced item is scored as either correct or incorrect. A correct answer receives full credit of 1 point and an incorrect answer receives a score of 0 points.

Preparing for a Microsoft Certified Professional Exam

The best way to prepare for an exam is to study, learn, and master the job function on which you'll be tested. For any certification exam, you should follow these important preparation steps:

1. Identify the objectives on which you'll be tested.
2. Assess your current mastery of those objectives.
3. Practice tasks and study the areas you haven't mastered.

This section describes tools and techniques that may be helpful as you perform these steps to prepare for the exam.

Exam Preparation Guides

For each certification exam, an Exam Preparation Guide provides important, specific information about what you'll be tested on and how best to prepare. These guides are essential tools for preparing to take certification exams. You'll find the following types of valuable information in the exam preparation guides:

- **Tasks you should master:** Outlines the overall job function tasks you should master
- **Exam objectives:** Lists the specific skills and abilities on which you should expect to be measured
- **Product resources:** Tells you which products and technologies with which you should be experienced

- **Suggested reading:** Points you to specific reference materials and other publications that discuss one or more of the exam objectives
- **Suggested curriculum:** Provides a specific list of instructor-led and self-paced courses relating to the job function tasks and topics in the exam

You'll also find pointers to additional information that may help you prepare for the exams, such as *Microsoft TechNet*, *Microsoft Developer Network* (MSDN), online forums, and other sources.

By paying attention to the verbs used in the "Exam Objectives" section of the Exam Preparation Guide, you can get an idea of the level at which you'll be tested on that objective.

web links   To view the most recent version of the Exam Preparation Guides, which include the exam's objectives, check out Microsoft's Training and Certification Web site at www.microsoft.com/train_cert.

Assessment Exams

When preparing for the exams, take lots of assessment exams. Assessment exams are self-paced exams that you take at your own computer. When you complete an assessment exam, you receive instant score feedback so you can determine areas in which additional study may be helpful before you take the certification exam. Although your score on an assessment exam doesn't necessarily indicate what your score will be on the certification exam, assessment exams give you the opportunity to answer items that are similar to those on the certification exams. And the assessment exams use the same computer-based testing tool as the certification exams, so you don't have to learn the tool on exam day.

An assessment exam exists for almost every certification exam.

concept link   The compact disc accompanying this book contains one Microsoft Windows NT 4.0 self-administered assessment exam, and two Microsoft NT 4.0 Core Technologies exam preparation practice exams (one for NT Workstation, one for NT Server). See Appendix H for details on how to install and access these exams.

Test-Taking Tips

Here are some tips that may be helpful as you prepare to take a certification exam.

Before the exam:

- Be sure to read "What to Expect at the Testing Center" in this guide for important information about the sign-in and test-taking procedures you'll follow on the day of your exam.

- Do the hands-on labs and review activities for each chapter in this book as you read it. Remember, the exams measure real-world skills that you can't obtain unless you use the product.

- Review the Key Point Summary sections *and* answer the Instant Assessment questions at the end of the chapters in this book just before taking an exam.

- Pay special attention to the exam preparation pointers scattered throughout this book—these pointers will help you focus on important exam-related topics.

- When you've finished reading all of the chapters (and have done all the labs) that pertain to a particular exam, take one or more practice tests to assess your readiness for the exam. Most practice tests will tell you what your weak areas are. Use this information to go back and study.

- Take as many practice exams as you can get your hands on before taking the exam. This will help you in two ways. First, some practice exam questions are quite similar to the real thing, and if you do enough practice exams, some of the questions you see on the exam might look familiar. Second, taking practice exams will make you more comfortable with the computer-based testing environment/process. This will reduce your stress when you take the actual exam. You can't take too many practice exams. It's virtually impossible to be *too* prepared for the exam.

- Take the exam preparation process seriously. Remember, these exams weren't designed to be easy—they were designed to recognize and certify professionals with specific skill sets.

- Consider joining (or becoming an associate member of) a professional organization or user group in your area that focuses on Windows NT. Some

user groups have a computer lab and/or lending library that can help you with your exam preparation. The meetings are a great place to meet people with similar interests, and potential employers, too.

- Consider subscribing to *Microsoft Certified Professional Magazine*. This magazine, which is an independent publication that is not associated with Microsoft, features an Exam Spotlight section where new Microsoft Certified Professional exams are critically reviewed as they are released. For more information about this magazine or to subscribe, visit the magazine's Web site at `www.mcpmag.com`.

- If possible, talk to friends or colleagues who have taken the exam for which you're preparing. Or check out the Internet for newsgroups or forums where people sometimes share their exam experiences. The experiences of others can shed some light on your potential weak areas that might benefit from further study. The MCSE list server at `saluki.com` is one example. Don't share (or ask friends to share with you) specific exam questions. However, it's fair game to share general topics that were strongly emphasized on the exam, and/or areas that had particularly detailed or tough questions.

- Consider forming a study group with friends or coworkers who are also preparing for one or more of the NT exams. As a group, you can share hardware and software resources, thus reducing your out-of-pocket costs for exam preparation.

- Check out the Internet. From time to time, Microsoft offers free 120-day evaluation copies of Windows NT on their Web site at `www.microsoft.com`. These evaluation copies are often offered in conjunction with a new product release, such as Internet Information Server, and so on. A free evaluation copy is a great study tool.

- Don't study all night before the test. A good night's sleep is often better preparation than the extra studying.

- Try to schedule the exam during your own "peak" time of day. In other words, if you're a morning person, try not to schedule the exam for 3:00 p.m.

- Know your testing center. Call ahead. Ask about the hardware they use for their testing computers. If some computers are faster than others, ask for the seat numbers of the faster computers and request one of those seat

numbers when scheduling your testing appointment with Sylvan Prometric. Consider visiting a testing center before you schedule an exam there. This will give you an opportunity to see what the testing environment will be like.

On exam day:

- Arrive ten to fifteen minutes early, and don't forget your picture ID.
- Dress comfortably. The more comfortable you are, the more you'll be able to focus on the exam.
- If you have any questions about the rules for the exam, ask the exam administrator before the exam begins. The exams are timed, so avoid using valuable test time for questions you could have asked earlier.
- Don't drink a lot of coffee or other beverage before taking an exam. Remember, these tests last ninety minutes, and you don't want to spend precious exam time running back and forth to the restroom.

During the exam:

- Answer the easy items first. The testing software enables you to move forward and backward through the exam. Go through all the items on the test once, answering those items you are sure of first; then go back and spend time on the harder items.
- Remember, no trick items exist. The correct answer will always be among the list of choices.
- Eliminate the most obvious incorrect answers first. This will make it easier for you to select the answer that seems most right to you.
- Answer all the items before you quit the exam. An unanswered item is scored as an incorrect answer. So if you're unsure of an answer, it can't hurt to make an educated guess.
- Try to relax. People often make avoidable, careless mistakes when they rush.
- When taking the actual exam, pause every few minutes and take a couple of deep breaths—this will bring more oxygen into your body, and, hopefully, help you to think more clearly. More importantly, this should help you relax and relieve some of the tension of the testing environment.

After the exam:

- Remember, if you don't pass the first time, you can use your score report to determine the areas where you could use additional study and take the exam again later (for an additional fee).

- Don't get discouraged if you don't pass the test your first time — or second time. Many intelligent, seasoned professionals fail a test once, twice, or more times before eventually passing it. If at first you don't succeed, try, try again . . . perseverance pays.

Taking a Microsoft Certified Professional Exam

This section contains information about registering for and taking a Microsoft Certified Professional exam, including what to expect when you arrive at the Sylvan Prometric testing center to take the exam.

How to Find Out Which Exams Are Available

You can find a complete list of MCP exams and their registration costs on the Microsoft Training and Certification Offline CD-ROM, which is included on the compact disc accompanying this book. To get the latest schedule information for a specific exam, contact Sylvan Prometric at (800) 755-EXAM.

How to Register for an Exam

Candidates may take exams at any of more than seven hundred Sylvan Prometric testing centers around the world. For the location of a Sylvan Prometric testing center near you, call (800) 755-EXAM (755-3926). Outside the United States and Canada, contact your local Sylvan Prometric Registration Center.

To register for a Microsoft Certified Professional exam:

1. Determine which exam you want to take and note the exam number.

2. Register with the Sylvan Prometric Registration Center nearest to you. A part of the registration process is advance payment for the exam.

3. After you receive the registration and payment confirmation letter from Sylvan Prometric, call a Sylvan Prometric testing center to schedule your exam.

When you schedule the exam, you'll be provided instructions regarding the appointment, cancellation procedures, and ID requirements, and information about the testing center location.

Exams must be taken 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 Sylvan Prometric at least two working days prior to the exam.

Although subject to space availability, same-day registration is available in some locations. Where same-day registration is available, you must register a minimum of two hours before test time.

What to Expect at the Testing Center

As you prepare for your certification exam, it may be helpful to know what to expect when you arrive at the testing center on the day of your exam. The following information gives you a preview of the general procedure you'll go through at the testing center:

- You will be asked to sign the log book upon arrival and departure.

- You will be required to show two forms of identification, including one photo ID (such as a driver's license or company security ID), before you may take the exam.

- The test administrator will give you a Testing Center Regulations form that explains the rules you will be expected to comply with during the test. You will be asked to sign the form, indicating that you understand the regulations and will comply.

- The test administrator will show you to your test computer and will handle any preparations necessary to start the testing tool and display the exam on the computer.

- You will be provided a set amount of scratch paper for use during the exam. All scratch paper will be collected from you at the end of the exam.

- The exams are all closed-book. You may not use a laptop computer or have any notes or printed material with you during the exam session.

- Some exams may include additional materials, or exhibits. If any exhibits are required for your exam, the test administrator will provide you with them before you begin the exam and collect them from you at the end of the exam.

- Before you begin the exam, the test administrator will tell you what to do when you complete the exam. If the test administrator doesn't explain this to you, or if you are unclear about what you should do, ask the administrator before beginning the exam.

- The number of items on each exam varies, as does the amount of time allotted for each exam. Generally, certification exams consist of about fifty to one hundred items and have durations of sixty to ninety minutes. You can verify the number of items and time allotted for your exam when you register.

Because you'll be given a specific amount of time to complete the exam once you begin, if you have any questions or concerns, don't hesitate to ask the test administrator before the exam begins.

As an exam candidate, you are entitled to the best support and environment possible for your exam. In particular, you are entitled to following:

- A quiet, uncluttered test environment

- Scratch paper

- The tutorial for using the online testing tool, and time to take the tutorial

- A knowledgeable and professional test administrator

- The opportunity to submit comments about the testing center and staff or the test itself

For more information about how to submit feedback about any aspect of your exam experience, see the section "If You Have Exam Concerns or Feedback" in this appendix. The Certification Development Team will investigate any problems or issues you raise and make every effort to resolve them quickly.

Your Exam Results

Once you have completed an exam, you will be given immediate, online notification of your pass or fail status. You will also receive a printed Examination Score Report indicating your pass or fail status and your exam results by section. (The test administrator will give you the printed score report.) Test scores are automatically forwarded to Microsoft within five working days after you take the test. You do not need to send your score to Microsoft.

If you pass the exam, you will receive confirmation from Microsoft, typically within two to four weeks.

If You Don't Receive a Passing Score

If you do not pass a certification exam, you may call Sylvan Prometric to schedule a time to retake the exam. Before retaking the exam, you should review the appropriate Exam Preparation Guide and focus additional study on the topic areas where your exam results could be improved. Please note that you must pay again for each exam retake.

One way to determine areas where additional study may be helpful is to carefully review your individual section scores. Generally, the section titles in your score report correlate to specific groups of exam objectives listed in the Exam Preparation Guide.

Here are some specific ways you can prepare to retake an exam:

- Go over the section-by-section scores on your exam results, noting objective areas where your score could be improved.
- Review the Exam Preparation Guide for the exam, with a special focus on the tasks and objective areas that correspond to the exam sections where your score could be improved.
- Increase your real-world, hands-on experience and practice performing the listed job tasks with the relevant products and technologies.
- Consider taking or retaking one or more of the suggested courses listed in the Exam Preparation Guide.
- Review the suggested readings listed in the Exam Preparation Guide.
- After you review the materials, retake the corresponding Assessment Exam.

If You Have Exam Concerns or Feedback

To provide the best certification preparation and testing materials possible, we encourage feedback from candidates. If you have any suggestions for improving any of the Microsoft Certified Professional exams or preparation materials, please let us know.

The following sections describe what to do if you have specific concerns or feedback about the certification exams.

If You Encounter a Problem with the Exam Software or Procedures

Although Microsoft and Sylvan Prometric make every effort to ensure that your exam experience is a positive one, if any problems should occur on the day of the exam, inform the Sylvan Prometric test administrator immediately. The Sylvan Prometric personnel are there to help make the logistics of your exam run smoothly.

If You Have a Concern About the Exam Content

Microsoft Certified Professional exams are developed by technical and testing experts, with input and participation from job function and technology experts. Through an exhaustive process, Microsoft ensures that the exams adhere to recognized standards for validity and reliability, and are considered by candidates to be relevant and fair. If you feel that an exam item is inappropriate or if you believe the answer shown is incorrect, write or send a fax to the Microsoft Certification Development Team, using the address or fax number listed in "For More Information."

Although Microsoft is unable to respond to individual questions and issues raised by candidates, all input from candidates is thoroughly researched and taken into consideration during development of subsequent versions of the exams. Microsoft is committed to ensuring the validity and reliability of these exams, and your input is a valuable resource.

For More Information

To find out more about Microsoft Education and Certification materials and programs, to register with Sylvan Prometric, or to get other useful information, check the following resources. Outside the United States or Canada, contact your local Microsoft office or Sylvan Prometric testing center.

- **Microsoft Certified Professional Program: (800) 636-7544.** Call for information about the the Microsoft Certified Professional program and exams, and to order the *Microsoft Certified Professional Program Exam Study Guide* or the Microsoft Training and Certification Offline CD-ROM.

- **Sylvan Prometric Testing Centers: (800) 755-EXAM.** Call to register to take a Microsoft Certified Professional exam at any of more than seven-hundred Sylvan Prometric testing centers around the world, or to order the *Microsoft Certified Professional Program Exam Study Guide*.

- **Microsoft Sales Fax Service: (800) 727-3351.** Call for Microsoft Certified Professional Exam Preparation Guides, Microsoft Official Curriculum course descriptions and schedules, or the *Microsoft Certified Professional Program Exam Study Guide*.

- **Education Program and Course Information: (800) SOLPROV.** Call for information about Microsoft Official Curriculum courses, Microsoft education products, and the Microsoft Solution Provider *Authorized Technical Education Center* (ATEC) program, where you can attend a Microsoft Official Curriculum course, or to order the *Microsoft Certified Professional Program Exam Study Guide*.

- **Microsoft Certification Development Team: Fax#: (425) 936-1311.** Use this fax number to volunteer for participation in one or more exam development phases or to report a problem with an exam. Address written correspondence to: Certification Development Team, Microsoft Education and Certification, One Microsoft Way, Redmond, WA 98052.

- **Microsoft TechNet Technical Information Network: (800) 344-2121.** Call for support professionals and system administrators. Outside the United States and Canada, call your local Microsoft subsidiary for information.

- **Microsoft Developer Network (MSDN): (800) 759-5474.** MSDN is the official source for software development kits, device driver kits, operating systems, and information about developing applications for Microsoft Windows and Windows NT.

- **Online Services: (800) 936-3500.** Call for information about Microsoft Connection on CompuServe, Microsoft Knowledge Base, Microsoft Software Library, Microsoft Download Service, and Internet.

- **Microsoft Online Institute (MOLI): (800) 449-9333.** Call for information about Microsoft's new online training program.

- **Microsoft Press: (800) MSPRESS.** Call for information about books published by Microsoft Press.