

**MCSA/MCSE: Windows®
Server 2003 Network
Infrastructure
Implementation,
Management and
Maintenance Study Guide**

*James Chellis
Paul Robichaux
Matthew Sheltz*

SYBEX®

MCSA/MCSE:

Windows Server 2003 Network Infrastructure Implementation, Management, and Maintenance

Study Guide



MCSA/MCSE: **Windows® Server 2003 Network Infrastructure Implementation, Management, and Maintenance** **Study Guide**



James Chellis
Paul Robichaux
and Matthew Sheltz

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With its release of Windows Server 2003, and the revised MCSA and MCSE tracks, Microsoft has raised the bar for IT certifications yet again. The new programs better reflect the skill set demanded of IT administrators in today's marketplace and offers candidates a clearer structure for acquiring the skills necessary to advance their careers.

The authors and editors have worked hard to ensure that the Study Guide you hold in your hand is comprehensive, in-depth, and pedagogically sound. We're confident that this book will exceed the demanding standards of the certification marketplace and help you, the Microsoft certification candidate, succeed in your endeavors.

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 the needs of individuals preparing for IT certification exams.

Good luck in pursuit of your Microsoft certification!

A handwritten signature in black ink, appearing to read "Neil Edde", written in a cursive style.

Neil Edde
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For my family, as always.

—Matt

Acknowledgments

This book was an exciting and challenging project for a number of reasons. Whereas Windows 2000 Server revolutionized the Windows operating system with the Active Directory and advanced management features, Windows Server 2003 represents an evolution of the previous formula that proved to work so well. In the meantime, Microsoft significantly altered the structure and content of the MCSA and MCSE programs for Windows Server 2003, so authors and trainers have had to change their tactics in order to keep up with the fast-paced certification market. For this book, many great authors, editors, and publishing professionals contributed to the finished product that you now hold in your hands.

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—Matt Sheltz

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Introduction

Microsoft's Microsoft Certified Systems Administrator (MCSA) and Microsoft Certified Systems Engineer (MCSE) tracks for Windows Server 2003 are the premier certifications for computer industry professionals. Covering the core technologies around which Microsoft's future will be built, this program provides powerful credentials 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 both the MCSA and MCSE certifications in the new Windows Server 2003 track: Managing and Maintaining a Microsoft Windows Server 2003 Environment (Exam 70-291).

The Microsoft Certified Professional Program

Since the inception of its certification program, Microsoft has certified almost 1.5 million people. As the computer network industry increases in both size and complexity, this number is 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 Systems Administrator (MCSA) on Windows Server 2003 The MCSA certification is the newest administrator certification track from Microsoft. This certification targets system and network administrators with roughly 6 to 12 months of desktop and network administration experience. The MCSA can be considered the entry-level certification. You must take and pass a total of four exams to obtain your MCSA. Or, if you are an MCSA on Windows 2000, you can take one Upgrade exam to obtain your MCSA on Windows Server 2003.

Microsoft Certified Systems Engineer (MCSE) on Windows Server 2003 This certification track is designed for network and system administrators, network and system analysts, and technical consultants who work with Microsoft Windows XP and Server 2003 software. You must take and pass seven exams to obtain your MCSE. Or, if you are an MCSE on Windows 2000, you can take two Upgrade exams to obtain your MCSE on Windows Server 2003.

MCSE versus MCSA

In an effort to provide those just starting off in the IT world a chance to prove their skills, Microsoft introduced its Microsoft Certified Systems Administrator (MCSA) program.

Targeted at those with less than a year's experience, the MCSA program focuses primarily on the administration portion of an IT professional's duties. Therefore, there are certain Windows exams that satisfy both MCSA and MCSE requirements, namely exams 70-270, 70-290, and 70-291.

Of course, it should be any MCSA's goal to eventually obtain his or her MCSE. However, don't assume that, because the MCSA has to take two exams that also satisfy an MCSE requirement, the two programs are similar. An MCSE must also know how to design a network. Beyond these two exams, the remaining MCSE required exams require the candidate to have much more hands-on experience.

Microsoft Certified Application Developer (MCAD) This track is designed for application developers and technical consultants who primarily use Microsoft development tools. Currently, you can take exams on Visual Basic .NET or Visual C# .NET. You must take and pass three exams to obtain your MCSD.

Microsoft Certified Solution Developer (MCSD) This track is designed for software engineers and developers and technical consultants who primarily use Microsoft development tools. As of this printing, you can get your MCSD in either Visual Studio 6 or Visual Studio .NET. In Visual Studio 6, you need to take and pass three exams. In Visual Studio .NET, you need to take and pass five 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. 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 several vendors, or by becoming a Certified Technical Trainer through CompTIA. Last of all, you will need to complete an MCT application.



Microsoft recently announced two new certification tracks for Windows 2000: MCSA: Security and MCSE: Security. In addition to the core operating system requirements, candidates must take two security specialization core exams, one of which can be CompTIA's Security+ exam. MCSE: Security candidates must also take a security specialization design exam. As of this printing, no announcement had been made on the track for Windows Server 2003. Check out Microsoft's website at www.microsoft.com/traincert.com for more information.

How Do You Become Certified on Windows Server 2003?

Attaining an MCSA or 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 exams, this is simply not the case.

Microsoft has taken strong steps to protect the security and integrity of its certification tracks. Now prospective candidates 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 XP, Server 2003, and related software products.

The Windows Server 2003 certification programs are 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 XP and Server 2003, 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 to pass the Windows Server 2003 network infrastructure administration exam.

This book is part of a complete series of MCSA and MCSE Study Guides, published by Sybex Inc., that together cover the core MCSA and MCSE operating system requirements, as well as the Design requirements needed to complete your MCSE track. Please visit the Sybex website at www.sybex.com for complete program and product details.

MCSA Exam Requirements

Candidates for MCSA certification on Windows Server 2003 must pass four exams.



For a more detailed description of the Microsoft certification programs, including a list of all the exams, visit Microsoft’s Training and Certification website at www.microsoft.com/traincert.

You must take one of the following client operating system exams:

- Installing, Configuring, and Administering Microsoft Windows 2000 Professional (70-210)
- Installing, Configuring, and Administering Microsoft Windows XP Professional (70-270)

You must also take the following networking operating system exams:

- Managing and Maintaining a Microsoft Windows Server 2003 Environment (70-290)
- Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure (70-291)

In addition, you must take one of a number of electives, including:

- Implementing and Supporting Microsoft Systems Management Server 2.0 (70-086)
- Installing, Configuring, and Administering Microsoft Internet Security and Acceleration (ISA) Server 2000, Enterprise Edition (70-227)
- Installing, Configuring, and Administering Microsoft SQL Server 2000 Enterprise Edition (70-228)
- CompTIA’s A+ and Network+ exams
- CompTIA’s A+ and Server+ exams

Also, if you are an MCSA on Windows 2000, you can take one Upgrade exam: Managing and Maintaining a Microsoft Windows Server 2003 Environment for an MCSA Certified on Windows 2000 (70-292).

MCSE Exam Requirements

Candidates for MCSE certification on Windows Server 2003 must pass seven exams, including one client operating system exam, three networking operating system exams, one design exam, and an elective.



For a more detailed description of the Microsoft certification programs, visit Microsoft's Training and Certification website at www.microsoft.com/traincert.

You must take one of the following client operating system exams:

- Installing, Configuring, and Administering Microsoft Windows 2000 Professional (70-210)
- Installing, Configuring, and Administering Microsoft Windows XP Professional (70-270)

You must also take the following networking operating system exams:

- Managing and Maintaining a Microsoft Windows Server 2003 Environment (70-290)
- Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure (70-291)
- Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure (70-293)
- Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure (70-294)

In addition, you must take one of the following Design exams:

- Designing a Microsoft Windows Server 2003 Active Directory and Network Infrastructure (70-297)
- Designing Security for a Microsoft Windows Server 2003 Network 2000 Server Technologies (70-298)

Finally, you must take one of the following electives:

- Implementing and Supporting Microsoft Systems Management Server 2.0 (70-086)
- Installing, Configuring, and Administering Microsoft Internet Security and Acceleration (ISA) Server 2000, Enterprise Edition (70-227)
- Installing, Configuring, and Administering Microsoft SQL Server 2000 Enterprise Edition (70-228)
- Designing and Implementing Databases with Microsoft SQL Server 2000 Enterprise Edition (70-229)
- The Design exam not taken as a requirement

Also, if you are an MCSE on Windows 2000, you can take two Upgrade exams: Managing and Maintaining a Microsoft Windows Server 2003 Environment for an MCSA Certified on Windows 2000 and Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Environment for an MCSE Certified on Windows 2000. In addition, if you are an MCSE in Windows NT, you do not have to take the client requirement, but you do have to take the networking operating system, design, and an exam elective.

Windows 2000 and Windows 2003 Certification

Microsoft recently announced that they will distinguish between Windows 2000 and Windows Server 2003 certifications. Those who have their MCSA or MCSE certification in Windows 2000 will be referred to as “certified on Windows 2000.” Those who obtained their MCSA or MCSE in the Windows Server 2003 will be referred to as “certified on Windows Server 2003.”

If you are certified in Windows 2000, you can take either one Upgrade exam (for MCSA) or two Upgrade exams (for MCSE) to obtain your certification on Windows 2003.

Microsoft also introduced a more clear distinction between the MCSA and MCSE certifications, by more sharply focusing each certification. In the new Windows 2003 track, the objectives covered by the MCSA exams relate primarily to administrative tasks. The exams that relate specifically to the MCSE, however, deal mostly with design-level concepts. So, MCSA job tasks are considered to be more hands-on, while the MCSE job tasks involve more strategic concerns of design and planning.

The Implementing, Managing and Maintaining a Windows Server 2003 Network Infrastructure Exam

The Implementing, Managing and Maintaining a Windows Server 2003 Network Infrastructure exam covers concepts and skills related to installing, managing, and maintaining a Windows Server 2003 network infrastructure. It emphasizes the following elements of network infrastructure support:

- Implementing, Managing, and Maintaining IP Addressing
- Implementing, Managing, and Maintaining Name Resolution
- Implementing, Managing, and Maintaining Network Security
- Implementing, Managing, and Maintaining Routing and Remote Access
- Maintaining a Network Infrastructure

This exam is quite specific regarding Windows Server 2003 network infrastructure 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 Server 2003’s operation. Careful study of this book, along with hands-on experience, will help you prepare for this exam.