

Microsoft Windows NT Server 4.0 in the Enterprise Exam Objectives

C

Exam 70-68: Implementing and Supporting Microsoft Windows NT Server 4.0 in the Enterprise

This appendix consists of four parts:

- The first part contains portions of Microsoft's *Preparation Guide for Exam 70-68: Implementing and Supporting Microsoft Windows NT 4.0 Server*, including a complete list of this exam's objectives.
- The second part lists the basic facts for this exam, including the number of questions, passing score, and time allowed to take the exam.
- The third part is an exhaustive exam objectives cross-reference chart for study purposes. Every exam objective is linked to the corresponding materials (text and labs) in this book.
- The fourth part is a quick-reference chart listing the chapters and labs in this book that you should read and study to prepare for the exam.



web links

This exam information is current as of the date this book went to press, but is subject to change by Microsoft at any time. You can ensure that you have the most current version of this exam's objectives by accessing the Microsoft Training and Certification Web site at: www.microsoft.com/train_cert/

Credit Toward Certification

A passing score on this exam counts as core credit toward *Microsoft Certified Systems Engineer* certification.

Skills Measured

The *Implementing and Supporting Microsoft Windows NT Server 4.0 in the Enterprise* certification exam measures your ability to implement, administer, and troubleshoot information systems that incorporate Windows NT Server 4.0 in an enterprise computing environment. An enterprise computing environment is typically a heterogeneous WAN. It might include multiple servers and multiple domains, and it might run sophisticated server applications. Before taking the exam, you should be proficient in the following job skills.

Exam Objectives

Planning

- Plan the implementation of a directory services architecture. Considerations include selecting the appropriate domain model, supporting a single logon account, and allowing users to access resources in different domains.
- Plan the disk drive configuration for various requirements. Requirements include choosing a fault-tolerance method.
- Choose a protocol for various situations. Protocols include TCP/IP, TCP/IP with DHCP and WINS, NWLink IPX/SPX Compatible Transport Protocol, Data Link Control (DLC), and AppleTalk.

Installation and Configuration

- Install Windows NT Server to perform various server roles. Server roles include primary domain controller, backup domain controller, and member server.
- Configure protocols and protocol bindings. Protocols include TCP/IP, TCP/IP with DHCP and WINS, NWLink IPX/SPX Compatible Transport Protocol, DLC, and AppleTalk.
- Configure Windows NT Server core services. Services include Directory Replicator and Computer Browser.
- Configure hard disks to meet various requirements. Requirements include providing redundancy and improving performance.
- Configure printers. Tasks include adding and configuring a printer, implementing a printer pool, and setting print priorities.
- Configure a Windows NT Server computer for various types of client computers. Client computer types include Windows NT Workstation, Windows 95, and Macintosh.

Managing Resources

- Manage user and group accounts. Considerations include managing Windows NT user accounts, managing Windows NT user rights, managing Windows NT groups, administering account policies, and auditing changes to the user account database.
- Create and manage policies and profiles for various situations. Policies and profiles include local user profiles, roaming user profiles, and system policies.
- Administer remote servers from various types of client computers. Client computer types include Windows 95 and Windows NT Workstation.
- Manage disk resources. Tasks include creating and sharing resources, implementing permissions and security, and establishing file auditing.

Connectivity

- Configure Windows NT Server for interoperability with NetWare servers by using various tools. Tools include Gateway Service for NetWare and Migration Tool for NetWare.

- Install and configure multiprotocol routing to serve various functions. Functions include Internet router, BOOTP/DHCP Relay Agent, and IPX router.
- Install and configure Internet Information Server.
- Install and configure Internet services. Services include World Wide Web, DNS, and Intranet.
- Install and configure Remote Access Service (RAS). Configuration options include configuring RAS communications, configuring RAS protocols, and configuring RAS security.

Monitoring and Optimization

- Establish a baseline for measuring system performance. Tasks include creating a database of measurement data.
- Monitor performance of various functions by using Performance Monitor. Functions include processor, memory, disk, and network.
- Monitor network traffic by using Network Monitor. Tasks include collecting data, presenting data, and filtering data.
- Identify performance bottlenecks.
- Optimize performance for various results. Results include controlling network traffic and controlling server load.

Troubleshooting

- Choose the appropriate course of action to take to resolve installation failures.
- Choose the appropriate course of action to take to resolve boot failures.
- Choose the appropriate course of action to take to resolve configuration errors. Tasks include backing up and restoring the registry and editing the registry.
- Choose the appropriate course of action to take to resolve printer problems.

- Choose the appropriate course of action to take to resolve RAS problems.
- Choose the appropriate course of action to take to resolve connectivity problems.
- Choose the appropriate course of action to take to resolve resource access and permission problems.
- Choose the appropriate course of action to take to resolve fault-tolerance failures. Fault-tolerance methods include: tape backup, mirroring, and stripe set with parity.
- Perform advanced problem resolution. Tasks include diagnosing and interpreting a blue screen, configuring a memory dump, and using the Event Log service.

Exam Facts

| | |
|-----------------------------------|------------|
| Number of questions on this exam: | 51 |
| Passing score: | 784 |
| Time allowed to take exam: | 90 minutes |

Exam Objectives Cross-Reference Chart for Study Purposes

Table C-1 lists the stated objectives for Exam 70-68, Implementing and Supporting Microsoft Windows NT Server 4.0 in the Enterprise, in a cross-reference chart for study purposes. Use this table to help you determine the specific chapters in this book that you should study, as well as the labs that you should perform, to prepare for the exam.

TABLE C-1 NT SERVER IN THE ENTERPRISE EXAM OBJECTIVES CROSS-REFERENCE CHART

| <i>EXAM OBJECTIVE</i> | <i>CHAPTER(S)</i> | <i>LAB(S) (IF APPLICABLE)</i> |
|--|------------------------------------|--------------------------------|
| Planning | | |
| Plan the implementation of a directory services architecture. Considerations include selecting the appropriate domain model, supporting a single logon account, and enabling users to access resources in different domains. | Chapter 10, pages 379–423 | Review Activity, pages 408–409 |
| | Chapter 1, pages 9–11 | Lab 10.15 Lab 10.16 |
| Plan the disk drive configuration for various requirements. Requirements include choosing a fault-tolerance method. | Chapter 3, pages 69–99 | Review Activity, pages 111–112 |
| Choose a protocol for various situations. Protocols include TCP/IP, TCP/IP with DHCP and WINS, NWLink IPX/SPX Compatible Transport Protocol, Data Link Control (DLC), and AppleTalk. | Chapter 2, pages 40–42 | None |
| | Chapter 4, pages 132–137 | |
| | Chapter 6, pages 211–215 | |
| | Chapter 16, pages 585–595, 601–604 | |
| | Chapter 17, pages 645–653 | |
| | Chapter 20, pages 757 | |
| Installation and Configuration | | |
| Install Windows NT Server to perform various server roles. Server roles include primary domain controller, backup domain controller, and member server. | Chapter 2, pages 36–38, 49 | Lab 2.2 |
| | Chapter 4, pages 128–132 | Lab 10.15 |
| Configure protocols and protocol bindings. Protocols include TCP/IP, TCP/IP with DHCP and WINS, NWLink IPX/SPX Compatible Transport Protocol, DLC, and AppleTalk. | Chapter 4, pages 132–142 | |
| | Chapter 16, pages 585–595, 601–604 | Lab 16.25 Lab 16.27 |
| | Chapter 17, pages 650–653 | Lab 17.30 |
| | Chapter 20, pages 757–761 | Lab 20.33 |

| <i>EXAM OBJECTIVE</i> | <i>CHAPTER(S)</i> | <i>LAB(S) (IF APPLICABLE)</i> |
|---|---------------------------|----------------------------------|
| Configure Windows NT Server core services. Services include Directory Replicator and Computer Browser. | Chapter 4 pages 144–148 | Lab 4.5 |
| | Chapter 13, pages 521–524 | Lab 13.21 |
| | Chapter 25, pages 912–914 | |
| Configure hard disks to meet various requirements. Requirements include providing redundancy and improving performance. | Chapter 3, pages 69–99 | Lab 3.3 |
| | | Review Activities, pages 110–112 |
| Configure printers. Tasks include adding and configuring a printer, implementing a printer pool, and setting print priorities. | Chapter 6, pages 201–243 | Lab 6.8 |
| | | Lab 6.9 |
| Configure a Windows NT Server computer for various types of client computers. Client computer types include Windows NT Workstation, Windows 95, and Macintosh. | Chapter 5, pages 175–182 | |
| | Chapter 20, pages 755–774 | Lab 20.33 |
| Managing Resources | | |
| Manage user and group accounts. Considerations include managing Windows NT user accounts, user rights, and groups; administering account policies; and auditing changes to the user account database. | Chapter 7, pages 261–301 | Lab 7.10 |
| | Chapter 8, pages 305–331 | Lab 8.11 Lab 8.12 |
| Create and manage policies and profiles for various situations. Policies and profiles include local user profiles, roaming user profiles, and system policies. | Chapter 9, pages 335–359 | Lab 9.13 |
| | | Lab 9.14 |
| Administer remote servers from various types of client computers. Client computer types include Windows 95 and Windows NT Workstation. | Chapter 14, pages 539–558 | Lab 14.23 |

continued

TABLE C-1 (continued)

| <i>EXAM OBJECTIVE</i> | <i>CHAPTER(S)</i> | <i>LAB(S) (IF APPLICABLE)</i> |
|---|--|-------------------------------|
| Manage disk resources. Tasks include creating and sharing resources, implementing permissions and security, and establishing file auditing. | Chapter 12, pages 451–489 | Lab 12.18 Lab 12.19 |
| Connectivity | | |
| Configure Windows NT Server for interoperability with NetWare servers by using various tools. Tools include Gateway Service for NetWare and Migration Tool for NetWare. | Chapter 17, pages 645–658, 662–672 Chapter 18, pages 685–704 | Lab 17.30 |
| Install and configure multiprotocol routing to serve various functions. Functions include Internet router, BOOTP/DHCP Relay Agent, and IPX router. | Chapter 16, pages 596–601 Chapter 17, pages 653–656 | Lab 16.27 Lab 17.31 |
| Install and configure Internet Information Server. | Chapter 16, pages 612–624 | Lab 16.26 |
| Install and configure Internet services. Services include World Wide Web, DNS, and Intranet. | Chapter 16, pages 604–624 | Lab 16.25 Lab 16.26 |
| Install and configure Remote Access Service (RAS). Configuration options include RAS communications, RAS protocols, and configuring RAS security. | Chapter 19, pages 707–729, 740–741 | Lab 19.32 |
| Monitoring and Optimization | | |
| Establish a baseline for measuring system performance. Tasks include creating a database of measurement data. | Chapter 24, pages 881–899 | None |

| <i>EXAM OBJECTIVE APPLICABLE)</i> | <i>CHAPTER(S)</i> | <i>LAB(S) (IF</i> |
|--|---------------------------------------|-----------------------------------|
| Monitor performance of various functions by using Performance Monitor. Functions include processor, memory, disk, and network. | Chapter 22, pages 809–845 | Lab 22.35 |
| Monitor network traffic by using Network Monitor. Tasks include collecting data, presenting data, and filtering data. | Chapter 24, pages 885–893 | |
| Identify performance bottlenecks. | Chapter 23, pages 847–879 | Lab 23.36 |
| Optimize performance for various results. Results include controlling network traffic and controlling server load. | Chapter 24, pages 893–895 | |
| | Chapter 25, pages 903–921 | Lab 25.37 |
| | Chapter 11, pages 427–447 | Lab 11.17 |
| | Chapter 25, pages 901–921 | Lab 25.38 |
| <i>Troubleshooting</i> | | |
| Choose the appropriate course of action to take to resolve installation failures. | Chapter 2, pages 52–53 | Review Activity, page 56 |
| | Chapter 26, pages 925–938 | |
| Choose the appropriate course of action to take to resolve boot failures. | Chapter 27, pages 941–949 | None |
| | Chapter 26, pages 925–938 | |
| Choose the appropriate course of action to take to resolve configuration errors. Tasks include backing up and restoring the registry and editing the registry. | Chapter 4, pages 156–157 | Lab 3.4 |
| | Chapter 15, pages 566–576 | Lab 15.24 |
| | Chapter 27, pages 946–949, 960–970 | Lab 27.39 |
| | Chapter 26, pages 925–938 | |
| Choose the appropriate course of action to take to resolve printer problems. | Chapter 6, pages 243–245 | Review Activity, pages 252–253 |
| | Chapter 26, pages 925–938 | |
| Choose the appropriate course of action to take to resolve RAS problems. | Chapter 19, pages 742–743 | Review Activity, pages 748–749 |
| | Chapter 26, pages 925–938 | |

continued

TABLE C-1 *(continued)*

| <i>EXAM OBJECTIVE</i> | <i>CHAPTER(S)</i> | <i>LAB(S) (IF APPLICABLE)</i> |
|--|--------------------------------|-------------------------------|
| Choose the appropriate course of action to take to resolve connectivity problems. | Chapter 16, pages 626–627 | Lab 16.28 |
| | Chapter 17, pages 672–673 | |
| | Chapter 26, pages 925–938 | |
| Choose the appropriate course of action to take to resolve resource access problems and permission problems. | Chapter 12, page 490 | Lab 12.20 |
| | Chapter 26, pages 925–938 | |
| Choose the appropriate course of action to take to resolve fault-tolerance failures. Fault-tolerance methods include tape backup, mirroring, and stripe set with parity. | Chapter 3, pages 100–107 | Lab 3.4 |
| | Chapter 15, pages 559–579 | Lab 15.24 |
| | Chapter 27, pages 946–949, 963 | |
| Perform advanced problem resolution. Tasks include diagnosing and interpreting a blue screen, configuring a memory dump, and using the Event Log service. | Chapter 26, pages 925–938 | |
| | Chapter 27, pages 939–989 | Lab 27.39 |

Quick Reference – Chapters and Labs That Prepare You for the Windows NT Server 4.0 in the Enterprise Exam

Table C-2 lists the specific chapters you should read and study, as well as the labs that you should perform, to prepare for Exam 70-68, Implementing and Supporting Microsoft Windows NT Server 4.0 in the Enterprise. With the exception of Chapter 1, which provides basic Windows NT information, each of these chapters and labs corresponds directly to the exam objectives listed in the previous section.

TABLE C-2 CHAPTERS AND LABS THAT PREPARE YOU FOR THE WINDOWS NT SERVER 4.0 IN THE ENTERPRISE EXAM

| <i>CHAPTER NUMBER</i> | <i>CHAPTER TITLE</i> | <i>APPLICABLE LAB(S) IN THIS CHAPTER</i> |
|-----------------------|--|--|
| Chapter 1 | Overview of Windows NT Workstation and Windows NT Server | None |
| Chapter 2 | Installing Windows NT Workstation and Windows NT Server | Lab 2.1 (Note: Lab 2.1 is not required to meet the exam objectives covered in this chapter; however, it is required to perform some of the later labs.) Lab 2.2, Review Activity: Installing Windows NT troubleshooting practice exercise |
| Chapter 3 | Configuring Disks | Lab 3.3, Lab 3.4, Review Activities: File system planning exercise, Disk partitioning and fault tolerance planning exercise |
| Chapter 4 | Using Control Panel | Lab 4.5 |
| Chapter 5 | Server-Based Deployment | None |
| Chapter 6 | Managing Printing | Lab 6.8, Lab 6.9, Review Activity: Windows NT printing troubleshooting exercise |
| Chapter 7 | Managing User and Group Accounts | Lab 7.10 |
| Chapter 8 | Managing Account Policy, User Rights, and Auditing | Lab 8.11, Lab 8.12 |
| Chapter 9 | Managing User Profiles and System Policy | Lab 9.13, Lab 9.14 |
| Chapter 10 | Managing Windows NT Directory Services | Lab 10.15, Lab 10.16, Review Activity: Planning network administration in a multiple master domain environment exercise |
| Chapter 11 | Optimizing Windows NT Server Directory Services | Lab 11.17 |
| Chapter 12 | Sharing and Securing File Systems | Lab 12.18, Lab 12.19, Lab 12.20 |

continued

TABLE C-2 *(continued)*

| <i>CHAPTER NUMBER</i> | <i>CHAPTER TITLE</i> | <i>APPLICABLE LAB(S) IN THIS CHAPTER</i> |
|---------------------------|--|---|
| Chapter 13 | Accessing Resources on the Network | Lab 13.21, Lab 13.22 |
| Chapter 14 | Using Windows NT Server Tools | Lab 14.23 |
| Chapter 15 | Backing Up and Restoring Data | Lab 15.24 |
| Chapter 16 | Networking Using TCP/IP | Lab 16.25, Lab 16.26, Lab 16.27, Lab 16.28 |
| Chapter 17 | Coexistence with NetWare | Lab 17.30, Lab 17.31 |
| Chapter 18 | Migrating to Windows NT from NetWare | None |
| Chapter 19 | Installing and Configuring Remote Access Service (RAS) | Lab 19.32, Review Activity: Troubleshooting common RAS problems |
| Chapter 20 | Macintosh Connectivity | Lab 20.33 |
| Chapter 22 | Using Performance Monitor | Lab 22.35 |
| Chapter 23 | Using Network Monitor | Lab 23.36 |
| Chapter 24 | Capacity Planning | None |
| Chapter 25 | Performance Optimization | Lab 25.37, Lab 25.38 |
| Chapter 26 | The Troubleshooting Process | None |
| Chapter 27 | Advanced Troubleshooting Topics | Lab 27.39 |