

# Microsoft Windows NT Server

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## TCP/IP

Contents

Welcome

- Chapter 1 Overview of Microsoft TCP/IP for Windows NT
- Chapter 2 Installing and Configuring Microsoft TCP/IP and SNMP
- Chapter 3 Networking Concepts for TCP/IP
- Chapter 4 Installing and Configuring DHCP Servers
- Chapter 5 Installing and Configuring WINS Servers
- Chapter 6 Setting Up LMHOSTS
- Chapter 7 Using the Microsoft FTP Server Service
- Chapter 8 Using Performance Monitor with TCP/IP Services
- Chapter 9 Internetwork Printing with TCP/IP
- Chapter 10 Troubleshooting TCP/IP
- Chapter 11 Utilities Reference
- Appendix A MIB Object Types for Windows NT
- Appendix B Windows Sockets Applications

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**Contents**

**Welcome**

**What's New in This Release**

**How to Use This Manual**

**Documentation Conventions**

**Finding More Information**

- Chapter 1 Overview of Microsoft TCP/IP for Windows NT**
- Chapter 2 Installing and Configuring Microsoft TCP/IP and SNMP**
- Chapter 3 Networking Concepts for TCP/IP**
- Chapter 4 Installing and Configuring DHCP Servers**
- Chapter 5 Installing and Configuring WINS Servers**
- Chapter 6 Setting Up LMHOSTS**
- Chapter 7 Using the Microsoft FTP Server Service**
- Chapter 8 Using Performance Monitor with TCP/IP Services**
- Chapter 9 Internetwork Printing with TCP/IP**
- Chapter 10 Troubleshooting TCP/IP**
- Chapter 11 Utilities Reference**
- Appendix A MIB Object Types for Windows NT**
- Appendix B Windows Sockets Applications**



# Welcome

Welcome to Microsoft® TCP/IP for Windows NT™.

Transmission Control Protocol/Internet Protocol (TCP/IP) is a networking protocol that provides communication across interconnected networks. This manual, *Microsoft Windows NT Server TCP/IP*, describes how to install, configure, and troubleshoot Microsoft TCP/IP on a computer running the Microsoft Windows NT Workstation or Windows NT Server operating system. It also provides a reference for the TCP/IP utilities and information about how to install and use the other TCP/IP services such as the File Transfer Protocol (FTP) Server service, TCP/IP printing, and Simple Network Management Protocol (SNMP), plus the software to support new dynamic configuration and name resolution services.

This manual assumes that you are familiar with the Microsoft Windows NT operating system. If you are not familiar with this product, refer to your Microsoft Windows NT documentation set.

This introduction provides the following basic information:

- What's new in this release
- How to use this manual
- Document conventions
- Finding more information



## What's New in This Release?

In this new version of Windows NT, TCP/IP capabilities have been expanded to include automatic TCP/IP configuration and powerful name resolution capabilities through the addition of new protocols and supporting administrative tools. New TCP/IP utilities plus the addition of performance counters for TCP/IP and related services will also help make administrative tasks easier. New elements include the following:

- Enhanced speed and performance
- Dynamic Host Configuration Protocol (DHCP)

Microsoft TCP/IP supports automatic TCP/IP configuration through the new DHCP service. When DHCP servers are installed on the network, users can take advantage of dynamic IP address allocation and management.

- Windows Internet Name Service (WINS)

Microsoft TCP/IP provides a powerful, new name resolution service for easy, centralized management of computer name-to-IP address resolution in medium and large internetworks.

- New TCP/IP utilities and commands

This version includes a new Windows-based Telnet accessory for connecting to remote systems. The utilities provided with Microsoft TCP/IP have been expanded to include **ipconfig** for displaying current TCP/IP network configuration values, **tracert** for determining the route taken to a destination, **lprq** for showing print queue status for TCP/IP printing, and **lpr** for printing a file in TCP/IP printing.

- Performance counters

You can use Performance Monitor to track performance of the IP protocols, FTP Server service traffic, and WINS servers. You can also use SNMP to monitor and manage WINS and DHCP servers.

- Multiple default gateways

You can configure multiple default gateways for Windows NT computers. This ensures maximum reliability in networks that offer redundant routes.

- TCP/IP printing

With TCP/IP printing installed on a single Windows NT computer on the network, other Windows networking computers can print to a direct-connect TCP/IP printer or a UNIX<sup>®</sup>-connected printer, without any special client software.



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## How to Use This Manual

This manual contains the following chapters and appendix:

**Chapter 1, "Overview of Microsoft TCP/IP for Windows NT"**

Describes the elements that make up Microsoft TCP/IP and provides an overview of how you can use Microsoft TCP/IP to support various networking solutions.

**Chapter 2, "Installing and Configuring Microsoft TCP/IP and SNMP"**

Describes the process for installing and configuring Microsoft TCP/IP, SNMP, and Remote Access Service (RAS) with TCP/IP on a computer running Windows NT.

**Chapter 3, "Networking Concepts for TCP/IP"**

Presents key TCP/IP networking concepts for network administrators interested in a technical discussion of the elements that make up Microsoft TCP/IP.

**Chapter 4, "Installing and Configuring DHCP Servers"**

Presents the procedures and strategies for setting up servers to support the Dynamic Host Configuration Protocol for Windows networks.

**Chapter 5, "Installing and Configuring WINS Servers"**

Presents the procedures and strategies for setting up Windows Internet Name Service servers.

**Chapter 6, "Setting Up LMHOSTS"**

Provides guidelines and tips for using LMHOSTS files for name resolution on networks.

**Chapter 7, "Using the Microsoft FTP Server Service"**

Describes how to install, configure, and administer the Microsoft FTP Server service.

**Chapter 8, "Using Performance Monitor with TCP/IP Services"**

Describes how to use the performance counters for TCP/IP, FTP Server service, DHCP servers, and WINS servers.

**Chapter 9, "Internetwork Printing and TCP/IP"**

Describes how to install TCP/IP printing and create TCP/IP printers on Windows NT computers with Microsoft TCP/IP.

**Chapter 10, "Troubleshooting TCP/IP"**

Describes how to troubleshoot IP connections and use the diagnostic utilities to get information that will help solve networking problems.

**Chapter 11, "Utilities Reference"**

Describes the TCP/IP utilities and provides syntax and notes.

**Appendix A, "LAN Manager MIB II for Windows NT Objects"**

Describes the LAN Manager MIB II objects provided when you install SNMP with Windows NT.

**Appendix B, "Windows Sockets Application Vendors"**

Lists third-party vendors who have created software based on the Windows Sockets standard to provide utilities and applications that run in heterogeneous networks that use TCP/IP. This appendix also lists Internet sources for public-domain software based on Windows Sockets.

The Glossary provides definitions of TCP/IP and networking technical terms used in this manual.

You can get online Help by pressing F1 in all dialog boxes for installing and configuring TCP/IP and related components. You can also get online Help about the Microsoft TCP/IP networking solutions and for the TCP/IP utilities.

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