[MS-DOCO]:
Windows Protocols Documentation Roadmap

Microsoft makes available the communications protocols implemented in Windows NT Server 4.0, Windows 2000 Professional, Windows 2000 Server, Windows XP, Windows Server 2003, Windows Vista, and the Windows Server 2008.

Each protocol and its associated data structure (if applicable) is documented in a technical specification. These specifications, together with a series of overview and reference documents, make up the Windows protocols documentation set. This document describes the objectives, audience, organization, and conventions of the documentation set.

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Revision Summary

Date	Revision History	Revision Class	Comments
02/14/2008	3.1	Minor	Updated the technical content.
03/14/2008	3.1.1	Editorial	Revised and edited the technical content.
06/20/2008	3.1.2	Editorial	Revised and edited the technical content.
07/25/2008	3.1.3	Editorial	Revised and edited the technical content.
08/29/2008	3.1.4	Editorial	Revised and edited the technical content.
10/24/2008	3.2	Minor	Updated the technical content.
12/05/2008	3.2.1	Editorial	Revised and edited the technical content.
01/16/2009	3.2.2	Editorial	Revised and edited the technical content.
02/27/2009	3.2.3	Editorial	Revised and edited the technical content.
04/10/2009	3.2.4	Editorial	Revised and edited the technical content.
05/22/2009	3.2.5	Editorial	Revised and edited the technical content.
07/02/2009	3.2.6	Editorial	Revised and edited the technical content.
08/14/2009	3.2.7	Editorial	Revised and edited the technical content.
09/25/2009	3.2.8	Editorial	Revised and edited the technical content.
11/06/2009	3.2.9	Editorial	Revised and edited the technical content.
12/18/2009	3.2.10	Editorial	Revised and edited the technical content.
01/29/2010	3.2.11	Editorial	Revised and edited the technical content.
03/12/2010	3.2.12	Editorial	Revised and edited the technical content.
04/23/2010	3.2.13	Editorial	Revised and edited the technical content.
06/04/2010	3.2.14	Editorial	Revised and edited the technical content.

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Date	Revision History	Revision Class	Comments
07/16/2010	3.3	Minor	Clarified the meaning of the technical content.
08/27/2010	3.3	No change	No changes to the meaning, language, or formatting of the technical content.
10/08/2010	3.3	No change	No changes to the meaning, language, or formatting of the technical content.
11/19/2010	3.3	No change	No changes to the meaning, language, or formatting of the technical content.
01/07/2011	3.3	No change	No changes to the meaning, language, or formatting of the technical content.
02/11/2011	3.3	No change	No changes to the meaning, language, or formatting of the technical content.

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Contents

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1 Documentation Scope and Objectives

The Microsoft Windows® protocols documentation set provides detailed technical specifications for Microsoft protocols and also provides extensions to industry-standard protocols. These protocols are implemented in Windows server operating systems and are used to communicate with Windows client operating systems and to deliver file, print, and user administration services.

The documentation set is designed to describe each protocol in detail as it is used by Windows. Each protocol specification documents technical requirements, limitations, dependencies, and Windows-specific protocol behavior.

The documentation set includes a set of companion overview and reference documents that supplement the technical specifications with conceptual background, overviews of inter-protocol relationships and interactions, and technical reference information, such as common data types and error codes.

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2 Audience

This documentation set is intended for use together with publicly available standard specifications, network programming art, and Microsoft Windows® distributed systems concepts. It assumes that the reader is either familiar with this material or has immediate access to it.

The documentation set provides the following levels of audience support:

- For implementers: Provides sufficient conceptual and reference information for a successful implementation of one or more protocol specifications.
- For reviewers: Provides a definitive resource for readers who want to evaluate or understand one or more Windows protocols.

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3 Documentation Architecture

The Microsoft Windows® protocols documentation set includes three types of documents:

- Overview documents
- Protocol and data structure specifications
- Reference documents

3.1 Overview Documents

The Microsoft Windows® protocols documentation set includes a set of overview documents that describe how the documentation is organized. These overview documents provide conceptual information about Windows and the broad functional areas that are implemented by one or more protocols to perform a predefined task, such as file or directory services. The overview documents are described in the following table.

Overview document name	Description
Windows Protocols Documentation Roadmap [MS-DOCO]	Describes the objectives, audience, organization, and conventions of the documentation set.
Windows System Overview [MS-WSO]	Provides a system overview for the protocols and systems described in protocols technical documents (TDs), Protocol Family system documents (PFSDs), and in Defined Tasks system documents (DTSDs), and outlines how these systems and protocols relate to one another.
Windows Protocols Overview [MS-PROTO]	Serves as a companion document to the protocol and data structure specifications that are included in the documentation set. It provides an overview of the Windows protocols that are implemented in the Windows server operating systems and that are used to interoperate or communicate with Windows client operating systems.
Windows System Overview [MS-SYS]	Serves as a companion document to the protocol and data structure specifications that are included in the documentation set. It provides an overview of the communication protocols that are implemented in the Windows server operating systems and that are used to deliver file and print services, and group and user administration services.

3.2 Protocol and Data Structure Specifications

A protocol defines a set of rules for exchanging information between two Microsoft Windows® operating system products that run on different computers that are connected via a network to accomplish predefined tasks.

The protocol specifications cover rules that govern the format, semantics, timing, sequencing, and error control of messages that are exchanged over the network. They also list the versions of Windows that implement each protocol as specified in the Windows behavior notes. The specifications do not include source code or other internal details of specific implementations of the protocol, such as internal state management; data validation methods; processing algorithms and logic; or architecture of a particular product or set of software components. They do not include data that is specific to a user, application, or installation.

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The protocol specifications do not require the use of Microsoft programming tools or programming environments to develop an implementation. Developers who have access to Microsoft programming tools and environments can take advantage of them.

The following table describes the three types of protocol specifications.

Protocol specification type	Description
RPC-based protocol	Describes a request-response remote procedure call (RPC)–based protocol that includes the Distributed Component Object Model (DCOM) in which all arguments come directly from the higher layer; and all return codes, output parameters, and exceptions are passed unmodified. This specification type contains the following sections: ▪ Introduction ▪ Messages ▪ Protocol Details ▪ Protocol Examples ▪ Security ▪ Appendix A: Full IDL ▪ Appendix B: Windows Behavior ▪ Index
Block protocol	Describes a block protocol. It contains the same sections as the RPC-based protocol specification except that Appendix A, the full IDL, is omitted.
Data structure	Describes data structures. This specification type contains the following sections: ▪ Introduction ▪ Structures ▪ Structure Examples ▪ Security Considerations ▪ Appendix A: Windows Behavior ▪ Index

The protocol specifications provide the following information:

- Definitions of terms that are used in the specification.
- A list of normative and informative references.
  - Normative references specify stable published documents that must be read to understand or implement the technology in the protocol specification or the technology that must be present for the protocol that is described in the specification to work. These references include public

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specifications that define the relevant protocols and other documents that are described in the Windows Behavior section of the specification. All normative references that are used in a specific specification are listed. Square brackets ([]) enclose citations. All references are listed in alphanumeric order.

- Informative references provide additional optional information that might be relevant to the protocol being described. For example, an informative reference might provide background or historical information. An implementer does not need to read the informative references in order to implement the technology in the protocol. Informative references are stable published documents. Square brackets ([]) enclose citations. All references are listed in alphanumeric order.

- When a protocol specification points to a normative reference and that reference includes the terms MAY, SHOULD, MUST, SHOULD NOT, or MUST NOT, the document specifies which choice was made in Windows for each of these terms. Similarly, if the normative reference is ambiguous in some areas, and interpretations or design decisions were made in Windows, the protocol specification clarifies ambiguities and discusses design decisions. If Windows does not support parts of the normative reference that are mandatory, the specification describes any differences. When Windows does not conform to mandatory statements, those exceptions are explained in the protocol specification. Unless otherwise specified, Microsoft has implemented all the SHOULDs in normative references, has not implemented any of the MAYs in normative references, and has not implemented any of the options in normative references. The terms MAY, SHOULD, MUST, SHOULD NOT, and MUST NOT are used as described in [RFC2119].

- The normative references that are included in Microsoft protocol specifications are the most recently published versions of each specification that describes the technology that the Microsoft protocol depends on. References to obsolete documents are not included if that document has been replaced by a newer document that does not change the specified technology. Similarly, later versions of that document are not referenced if that later version describes technology that differs from the technology the Microsoft protocol depends on, in a way that would affect interoperability.

- An overview of what the protocol does and how it behaves in various Windows operating system products. Some specifications include diagrams to explain how protocol architecture and communication sequences interact.

- Detailed information about data that is transferred over the wire. This information varies, depending on whether the protocol is an RPC-based protocol or a block protocol. In the context of this documentation set, an RPC-based protocol is defined as a protocol that is based on a set of methods that are defined in one or more IDL files. By contrast, a block protocol is defined as a protocol that sends data over the wire in packets.

- Information about protocol interaction. For example, if a protocol is typically transported by TCP/IP, the specification describes the transport mechanism and the interactions with the first layer down from the protocol.

- State information, when applicable.

3.3 Reference Documents

The reference documents provide supporting material that assists in understanding and implementing one protocol or a specific set of protocols. The following table lists the reference documents that are included in the documentation set.

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Reference document name	Description
Windows Data Types [MS-DTYP]	Describes the common data types that are used in the protocol specifications.
Windows Language Code Identifier (LCID) Reference [MS-LCID]	Describes localizable information in Microsoft Windows®. It lists all the language code identifiers (LCIDs) that are available in all versions of Windows.
Windows Error Codes [MS-ERREF]	Describes the HRESULT values, Win32 error codes, and NTSTATUS values that are referenced in the protocol specifications throughout the Windows protocols documentation set.
Windows Protocols Unicode Reference [MS-UCODEREF]	Provides related Unicode processing algorithms on the Windows platform. This reference includes, but is not limited to, Unicode string comparison and conversion of Unicode to legacy code pages.
Windows Protocols Master Reference [MS-REF]	Provides an A–Z list of all references (normative and informative) that are included in the Windows protocols documentation set.
Windows Protocols Master Glossary [MS-GLOS]	Provides a single source of definitions that are common to many of the protocols.

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4 Documentation Roadmap

To navigate the documentation set, follow these guidelines:

- If you are new to the documentation set and new to Microsoft Windows®, read the overview documents first to familiarize yourself with the organization of the documentation set, as well as with Windows concepts and how protocols relate to each other. We recommend that you read the overview documents in this order:

  1. [MS-DOCO]: Windows Protocols Documentation Roadmap
  2. [MS-WSO]: Windows System Overview
  3. The Windows protocols overview documents:
     - [MS-PROTO]: Windows Protocols Overview: Read this for an overview of the protocols that are implemented in Windows server operating systems in order to communicate with Windows client operating systems.
     - [MS-SYS]: Windows System Overview: Read this for an overview of the protocols that are implemented in the Windows server operating systems and used to deliver file and print services, and group and user administration services.
  4. After you read the preceding documents, go to the [Windows Protocols Web Site] to access the protocol specifications in which you are interested.

- If you are familiar with the documentation set and new to Windows:

  1. Read [MS-WSO] first and then [MS-PROTO]. [MS-PROTO] can help you determine which protocols are closely related to each other. You can use the protocols tables in [MS-PROTO] to determine the short names of the protocol specifications you are interested in reading.
  2. Go to the [Windows Protocols Web Site] to access the protocol specifications.

- If you are familiar with the documentation set and Windows, go directly to the [Windows Protocols Web Site] to access the protocol specifications in which you are interested.

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5 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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6 Index

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