**[MS-ADA3]:**

**Active Directory Schema Attributes N-Z**

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**Revision Summary**

| Date | Revision History | Revision Class | Comments |
| --- | --- | --- | --- |
| 2/22/2007 | 0.01 |  | Version 0.01 release |
| 6/1/2007 | 1.0 | Major | Updated and revised the technical content. |
| 7/3/2007 | 1.0.1 | Editorial | Changed language and formatting in the technical content. |
| 7/20/2007 | 1.0.2 | Editorial | Changed language and formatting in the technical content. |
| 8/10/2007 | 1.0.3 | Editorial | Changed language and formatting in the technical content. |
| 9/28/2007 | 1.0.4 | Editorial | Changed language and formatting in the technical content. |
| 10/23/2007 | 1.0.5 | Editorial | Changed language and formatting in the technical content. |
| 11/30/2007 | 2.0 | Major | Added object. |
| 1/25/2008 | 3.0 | Major | Updated and revised the technical content. |
| 3/14/2008 | 3.1 | Minor | Clarified status of several attributes. |
| 5/16/2008 | 3.1.1 | Editorial | Changed language and formatting in the technical content. |
| 6/20/2008 | 3.2 | Minor | Clarified the meaning of the technical content. |
| 7/25/2008 | 3.2.1 | Editorial | Changed language and formatting in the technical content. |
| 8/29/2008 | 4.0 | Major | Updated and revised the technical content. |
| 10/24/2008 | 5.0 | Major | Updated and revised the technical content. |
| 12/5/2008 | 6.0 | Major | Updated and revised the technical content. |
| 1/16/2009 | 6.0.1 | Editorial | Changed language and formatting in the technical content. |
| 2/27/2009 | 6.0.2 | Editorial | Changed language and formatting in the technical content. |
| 4/10/2009 | 6.1 | Minor | Clarified the meaning of the technical content. |
| 5/22/2009 | 7.0 | Major | Updated and revised the technical content. |
| 7/2/2009 | 8.0 | Major | Updated and revised the technical content. |
| 8/14/2009 | 8.0.1 | Editorial | Changed language and formatting in the technical content. |
| 9/25/2009 | 9.0 | Major | Updated and revised the technical content. |
| 11/6/2009 | 10.0 | Major | Updated and revised the technical content. |
| 12/18/2009 | 10.0.1 | Editorial | Changed language and formatting in the technical content. |
| 1/29/2010 | 11.0 | Major | Updated and revised the technical content. |
| 3/12/2010 | 12.0 | Major | Updated and revised the technical content. |
| 4/23/2010 | 12.0.1 | Editorial | Changed language and formatting in the technical content. |
| 6/4/2010 | 13.0 | Major | Updated and revised the technical content. |
| 7/16/2010 | 14.0 | Major | Updated and revised the technical content. |
| 8/27/2010 | 15.0 | Major | Updated and revised the technical content. |
| 10/8/2010 | 16.0 | Major | Updated and revised the technical content. |
| 11/19/2010 | 17.0 | Major | Updated and revised the technical content. |
| 1/7/2011 | 18.0 | Major | Updated and revised the technical content. |
| 2/11/2011 | 18.1 | Minor | Clarified the meaning of the technical content. |
| 3/25/2011 | 18.2 | Minor | Clarified the meaning of the technical content. |
| 5/6/2011 | 18.3 | Minor | Clarified the meaning of the technical content. |
| 6/17/2011 | 18.4 | Minor | Clarified the meaning of the technical content. |
| 9/23/2011 | 18.5 | Minor | Clarified the meaning of the technical content. |
| 12/16/2011 | 19.0 | Major | Updated and revised the technical content. |
| 3/30/2012 | 19.0 | None | No changes to the meaning, language, or formatting of the technical content. |
| 7/12/2012 | 20.0 | Major | Updated and revised the technical content. |
| 10/25/2012 | 21.0 | Major | Updated and revised the technical content. |
| 1/31/2013 | 21.0 | None | No changes to the meaning, language, or formatting of the technical content. |
| 8/8/2013 | 21.1 | Minor | Clarified the meaning of the technical content. |
| 11/14/2013 | 21.2 | Minor | Clarified the meaning of the technical content. |
| 2/13/2014 | 21.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 5/15/2014 | 21.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 6/30/2015 | 21.3 | Minor | Clarified the meaning of the technical content. |

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# Introduction

Active Directory Schema Attributes N-Z contains a partial list of the objects that exist in the Active Directory schema; it contains schema objects of type "attribute" whose names start with the letters N through Z. Active Directory and all associated terms and concepts are described in the document titled "Active Directory Technical Specification", which has the following normative reference:

[MS-ADTS] Microsoft Corporation, "Active Directory Technical Specification".

**Note** This document is not intended to stand on its own; it is intended to act as an appendix to the Active Directory Technical Specification, as specified in the normative reference shown above. For details about the Active Directory schema, see [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2 (Active Directory Schema).

**Note** The object definitions in this document are also available for download in LDAP Data Interchange Format (LDIF) at the following location: [[MSFT-ADSCHEMA]](http://go.microsoft.com/fwlink/?LinkId=212555).

## References

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[MS-ADSC] Microsoft Corporation, "[Active Directory Schema Classes](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADSC%5d.pdf#Section_9abb5e97123d4da99557b353ab79b830)".

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[MS-DTYP] Microsoft Corporation, "[Windows Data Types](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DTYP%5d.pdf#Section_cca2742956894a16b2b49325d93e4ba2)".

[MS-SAMR] Microsoft Corporation, "[Security Account Manager (SAM) Remote Protocol (Client-to-Server)](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf#Section_4df07fab1bbc452f8e927853a3c7e380)".

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[MSDN-PACKAGE-FLAGS] Microsoft Corporation, "Package-Flags", [http://msdn.microsoft.com/en-us/library/ms679099.aspx](http://go.microsoft.com/fwlink/?LinkId=90058)

[MSFT-ADSCHEMA] Microsoft Corporation, "Combined Active Directory Schema Classes and Attributes for Windows Server", February 2011, [http://www.microsoft.com/downloads/en/details.aspx?displaylang=en&FamilyID=da2fc73a-3d35-484c-9bea-f023dcba7275](http://go.microsoft.com/fwlink/?LinkId=212555)

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[RFC2251] Wahl, M., Howes, T., and Kille, S., "Lightweight Directory Access Protocol (v3)", RFC 2251, December 1997, [http://www.ietf.org/rfc/rfc2251.txt](http://go.microsoft.com/fwlink/?LinkId=90325)

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[RFC804] Drafting Group on Draft Recommendation T.4, "CCITT Draft Recommendation T.4 - STANDARDIZATION OF GROUP 3 FACSIMILE APPARATUS FOR DOCUMENT TRANSMISSION", RFC 804, [http://www.faqs.org/rfcs/rfc804.html](http://go.microsoft.com/fwlink/?LinkId=110405)

[RFC822] Crocker, D.H., "Standard for ARPA Internet Text Messages", STD 11, RFC 822, August 1982, [http://www.ietf.org/rfc/rfc0822.txt](http://go.microsoft.com/fwlink/?LinkId=90497)

[X121] ITU-T, "Public data networks - Network aspects - International numbering plan for public data networks", Recommendation X.121, October 2000, [http://www.itu.int/rec/T-REC-X.121/en](http://go.microsoft.com/fwlink/?LinkId=107134)

[X400] ITU-T, "Message handling systems - Message handling system and service overview", Recommendation F.400/X.400, June 1999, [http://www.itu.int/rec/T-REC-X.400/en](http://go.microsoft.com/fwlink/?LinkId=107135)

[X420] ITU-T, "X.420 - Information technology - Message Handling Systems (MHS): Interpersonal Messaging System", Recommendation X.420 June 1999, [http://www.itu.int/rec/T-REC-X.420-199906-I/en](http://go.microsoft.com/fwlink/?LinkId=110403)

[X500] ITU-T, "Information Technology - Open Systems Interconnection - The Directory: Overview of Concepts, Models and Services", Recommendation X.500, August 2005, [http://www.itu.int/rec/T-REC-X.500-200508-S/en](http://go.microsoft.com/fwlink/?LinkId=90589)

**Note** There is a charge to download the specification.

[X509] ITU-T, "Information Technology - Open Systems Interconnection - The Directory: Public-Key and Attribute Certificate Frameworks", Recommendation X.509, August 2005, [http://www.itu.int/rec/T-REC-X.509/en](http://go.microsoft.com/fwlink/?LinkId=90590)

# Attributes

Note: Some of the information in this section is subject to change because it applies to an unreleased, preliminary version of the Windows Server operating system, and thus may differ from the final version of the server software when released. All behavior notes that pertain to the unreleased, preliminary version of the Windows Server operating system contain specific references to Windows Server 2016 Technical Preview as an aid to the reader.

The following sections specify attributes in the Active Directory schema whose names start with the letters N through Z.

These sections normatively specify the schema definition of each attribute and version-specific behavior of those schema definitions (such as when the attribute was added to the schema). Additionally, as an aid to the reader some of the sections include informative notes about how the attribute can be used.

**Note**  Lines of text in the attribute definitions that are excessively long have been "folded" in accordance with [[RFC2849]](http://go.microsoft.com/fwlink/?LinkId=90389) Note 2.

## Attribute name

This attribute specifies the relative distinguished name of an object. The relative distinguished name is the part of the object name that is an attribute of the object itself. Also known as the naming attribute. See the glossary entry for distinguished name in [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 1.1.

1. cn: RDN
2. ldapDisplayName: name
3. attributeId: 1.2.840.113556.1.4.1
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a0e-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE| fANR | fATTINDEX
10. rangeLower: 1
11. rangeUpper: 255
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 33282
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server operating system, Windows Server 2003 operating system, Windows Server 2003 R2 operating system, Windows Server 2008 operating system, Windows Server 2008 R2 operating system, Windows Server 2012 operating system, Windows Server 2012 R2 operating system, and Windows Server 2016 Technical Preview operating system.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute nameServiceFlags

This attribute specifies the configuration flags for remote procedure call (RPC) name service.

1. cn: Name-Service-Flags
2. ldapDisplayName: nameServiceFlags
3. attributeId: 1.2.840.113556.1.4.753
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 80212840-4bdc-11d1-a9c4-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nCName

This attribute specifies the distinguished name of the naming context (NC) for the object. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1 for more details on usage.

1. cn: NC-Name
2. ldapDisplayName: nCName
3. attributeId: 1.2.840.113556.1.2.16
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: bf9679d6-0de6-11d0-a285-00aa003049e2
9. systemOnly: TRUE
10. searchFlags: fPRESERVEONDELETE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute nETBIOSName

This attribute specifies the name of the object to be used over NetBIOS.

1. cn: NETBIOS-Name
2. ldapDisplayName: nETBIOSName
3. attributeId: 1.2.840.113556.1.4.87
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679d8-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 1
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute netbootAllowNewClients

This attribute is reserved for internal use.

1. cn: netboot-Allow-New-Clients
2. ldapDisplayName: netbootAllowNewClients
3. attributeId: 1.2.840.113556.1.4.849
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 07383076-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootAnswerOnlyValidClients

This attribute specifies whether the server answers all computers or only pre-staged client computers.

1. cn: netboot-Answer-Only-Valid-Clients
2. ldapDisplayName: netbootAnswerOnlyValidClients
3. attributeId: 1.2.840.113556.1.4.854
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 0738307b-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootAnswerRequests

This attribute enables the RIS server to accept any RIS requests.

1. cn: netboot-Answer-Requests
2. ldapDisplayName: netbootAnswerRequests
3. attributeId: 1.2.840.113556.1.4.853
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 0738307a-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootCurrentClientCount

The netboot-Current-Client-Count attribute is reserved for internal use.

1. cn: netboot-Current-Client-Count
2. ldapDisplayName: netbootCurrentClientCount
3. attributeId: 1.2.840.113556.1.4.852
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 07383079-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootDUID

This attribute is used to store a DHCPv6 DUID device ID.

1. cn: Netboot-DUID
2. ldapDisplayName: netbootDUID
3. attributeId: 1.2.840.113556.1.4.2234
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 532570bd-3d77-424f-822f-0d636dc6daad
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 2
11. rangeUpper: 128
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootGUID

This attribute specifies the diskless boot: Machine on-board GUID. Corresponds to the computer's network card MAC address.

1. cn: Netboot-GUID
2. ldapDisplayName: netbootGUID
3. attributeId: 1.2.840.113556.1.4.359
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978921-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 16
11. rangeUpper: 16
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootInitialization

This attribute specifies the default boot path for diskless boot.

1. cn: Netboot-Initialization
2. ldapDisplayName: netbootInitialization
3. attributeId: 1.2.840.113556.1.4.358
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978920-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootIntelliMirrorOSes

The netboot-IntelliMirror-OSes attribute is reserved for internal use.

1. cn: netboot-IntelliMirror-OSes
2. ldapDisplayName: netbootIntelliMirrorOSes
3. attributeId: 1.2.840.113556.1.4.857
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0738307e-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootLimitClients

The netboot-Limit-Clients attribute is reserved for internal use.

1. cn: netboot-Limit-Clients
2. ldapDisplayName: netbootLimitClients
3. attributeId: 1.2.840.113556.1.4.850
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 07383077-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootLocallyInstalledOSes

The netboot-Locally-Installed-OSes attribute is reserved for internal use.

1. cn: netboot-Locally-Installed-OSes
2. ldapDisplayName: netbootLocallyInstalledOSes
3. attributeId: 1.2.840.113556.1.4.859
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 07383080-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootMachineFilePath

This attribute specifies the server that answers the client. In Windows Server 2003, it can indicate the startrom that the client gets.

1. cn: Netboot-Machine-File-Path
2. ldapDisplayName: netbootMachineFilePath
3. attributeId: 1.2.840.113556.1.4.361
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978923-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootMaxClients

The netboot-Max-Clients attribute is reserved for internal use.

1. cn: netboot-Max-Clients
2. ldapDisplayName: netbootMaxClients
3. attributeId: 1.2.840.113556.1.4.851
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 07383078-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootMirrorDataFile

The Netboot-Mirror-Data-File attribute is reserved for internal use.

1. cn: Netboot-Mirror-Data-File
2. ldapDisplayName: netbootMirrorDataFile
3. attributeId: 1.2.840.113556.1.4.1241
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 2df90d85-009f-11d2-aa4c-00c04fd7d83a
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootNewMachineNamingPolicy

This attribute specifies the naming scheme that new client computer accounts will use.

1. cn: netboot-New-Machine-Naming-Policy
2. ldapDisplayName: netbootNewMachineNamingPolicy
3. attributeId: 1.2.840.113556.1.4.855
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0738307c-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootNewMachineOU

This attribute specifies where the new client computer account will be created.

1. cn: netboot-New-Machine-OU
2. ldapDisplayName: netbootNewMachineOU
3. attributeId: 1.2.840.113556.1.4.856
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 0738307d-91df-11d1-aebc-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootSCPBL

This attribute is the back link attribute of netbootServer and contains a list of service connection points that reference this netboot server.

1. cn: netboot-SCP-BL
2. ldapDisplayName: netbootSCPBL
3. attributeId: 1.2.840.113556.1.4.864
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 07383082-91df-11d1-aebc-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: 0
11. linkID: 101
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently:

1. isSingleValued: TRUE

## Attribute netbootServer

This attribute specifies the distinguished name of a netboot server.

1. cn: netboot-Server
2. ldapDisplayName: netbootServer
3. attributeId: 1.2.840.113556.1.4.860
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 07383081-91df-11d1-aebc-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 100
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootSIFFile

The Netboot-SIF-File attribute is reserved for internal use.

1. cn: Netboot-SIF-File
2. ldapDisplayName: netbootSIFFile
3. attributeId: 1.2.840.113556.1.4.1240
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 2df90d84-009f-11d2-aa4c-00c04fd7d83a
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute netbootTools

The netboot-Tools attribute is reserved for internal use.

1. cn: netboot-Tools
2. ldapDisplayName: netbootTools
3. attributeId: 1.2.840.113556.1.4.858
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0738307f-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute networkAddress

This attribute specifies the TCP/IP address for a network segment, which is also called the subnet address.

1. cn: Network-Address
2. ldapDisplayName: networkAddress
3. attributeId: 1.2.840.113556.1.2.459
4. attributeSyntax: 2.5.5.4
5. omSyntax: 20
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679d9-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 256
12. mapiID: 33136

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nextLevelStore

This attribute specifies the next class store to search.

1. cn: Next-Level-Store
2. ldapDisplayName: nextLevelStore
3. attributeId: 1.2.840.113556.1.4.214
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: bf9679da-0de6-11d0-a285-00aa003049e2
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nextRid

This attribute specifies the **Next Rid** field used by the mixed mode allocator. See [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) and [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) for more information on how RID pools are defined.

1. cn: Next-Rid
2. ldapDisplayName: nextRid
3. attributeId: 1.2.840.113556.1.4.88
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679db-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute nisMapEntry

This attribute specifies one map entry of a non-standard map.

1. cn: NisMapEntry
2. ldapDisplayName: nisMapEntry
3. attributeId: 1.3.6.1.1.1.1.27
4. attributeSyntax: 2.5.5.5
5. omSyntax: 22
6. isSingleValued: TRUE
7. schemaIdGuid: 4a95216e-fcc0-402e-b57f-5971626148a9
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 1024

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nisMapName

The attribute contains the name of the map to which the object belongs.

1. cn: NisMapName
2. ldapDisplayName: nisMapName
3. attributeId: 1.3.6.1.1.1.1.26
4. attributeSyntax: 2.5.5.5
5. omSyntax: 22
6. isSingleValued: TRUE
7. schemaIdGuid: 969d3c79-0e9a-4d95-b0ac-bdde7ff8f3a1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 1024

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nisNetgroupTriple

This attribute specifies one entry from a netgroup map.

1. cn: NisNetgroupTriple
2. ldapDisplayName: nisNetgroupTriple
3. attributeId: 1.3.6.1.1.1.1.14
4. attributeSyntax: 2.5.5.5
5. omSyntax: 22
6. isSingleValued: FALSE
7. schemaIdGuid: a8032e74-30ef-4ff5-affc-0fc217783fec
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 153600

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nonSecurityMember

This attribute specifies non-security members of a group. It is used for Microsoft Exchange Server distribution lists.

1. cn: Non-Security-Member
2. ldapDisplayName: nonSecurityMember
3. attributeId: 1.2.840.113556.1.4.530
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 52458018-ca6a-11d0-afff-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 50
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nonSecurityMemberBL

This attribute is the back link attribute of nonSecurityMember and contains the list of nonsecurity members for a Exchange Server distribution list.

1. cn: Non-Security-Member-BL
2. ldapDisplayName: nonSecurityMemberBL
3. attributeId: 1.2.840.113556.1.4.531
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 52458019-ca6a-11d0-afff-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: 0
11. linkID: 51
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute notes

This attribute specifies a free text field for general-purpose notes on an object.

1. cn: Additional-Information
2. ldapDisplayName: notes
3. attributeId: 1.2.840.113556.1.4.265
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 6d05fb41-246b-11d0-a9c8-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 32768
11. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

On Windows 2000 Server, rangeUpper is not defined.

## Attribute notificationList

This attribute is not necessary for Active Directory to function. The protocol does not define a format beyond that required by the schema.

1. cn: Notification-List
2. ldapDisplayName: notificationList
3. attributeId: 1.2.840.113556.1.4.303
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 19195a56-6da0-11d0-afd3-00c04fd930c9
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nTGroupMembers

This attribute is not necessary for Active Directory to function. The protocol does not define a format beyond that required by the schema.

1. cn: NT-Group-Members
2. ldapDisplayName: nTGroupMembers
3. attributeId: 1.2.840.113556.1.4.89
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679df-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute nTMixedDomain

This attribute specifies whether the domain is in native mode or mixed mode. This attribute is found in the domainDNS (head) object for the domain. For more information on how AD uses this attribute, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.4.1.

1. cn: NT-Mixed-Domain
2. ldapDisplayName: nTMixedDomain
3. attributeId: 1.2.840.113556.1.4.357
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 3e97891f-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute ntPwdHistory

This attribute specifies the password history of the user in Windows NT operating system one-way format (OWF). Windows 2000 operating system uses the Windows NT OWF.

For more information about usage, refer to [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) sections 3.1.1.6 and 3.1.1.9.1.

1. cn: Nt-Pwd-History
2. ldapDisplayName: ntPwdHistory
3. attributeId: 1.2.840.113556.1.4.94
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679e2-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute nTSecurityDescriptor

This attribute specifies the Windows NT security descriptor for an object. For more information about how Active Directory uses this attribute, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 5.1.

1. cn: NT-Security-Descriptor
2. ldapDisplayName: nTSecurityDescriptor
3. attributeId: 1.2.840.113556.1.2.281
4. attributeSyntax: 2.5.5.15
5. omSyntax: 66
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679e3-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fPRESERVEONDELETE
10. rangeLower: 0
11. rangeUpper: 132096
12. mapiID: 32787
13. isMemberOfPartialAttributeSet: TRUE
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_OPERATIONAL |
15. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
16. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently:

1. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
2. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute o

This attribute specifies the name of the company or organization.

1. cn: Organization-Name
2. ldapDisplayName: o
3. attributeId: 2.5.4.10
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679ef-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 33025
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectCategory

This attribute specifies an object class name that is used to group objects of this or derived classes. Every object in Active Directory has this attribute. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.3.1.3.5 for more information about how Active Directory uses this attribute in searches.

1. cn: Object-Category
2. ldapDisplayName: objectCategory
3. attributeId: 1.2.840.113556.1.4.782
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 26d97369-6070-11d1-a9c6-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: fATTINDEX
11. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
14. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
15. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectClass

This attribute specifies the list of classes of which this object is an instance. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2.4.3 for information about how this attribute is used.

1. cn: Object-Class
2. ldapDisplayName: objectClass
3. attributeId: 2.5.4.0
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679e5-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fATTINDEX | fPRESERVEONDELETE
10. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

**Note**  If the DC functional level of the DC that initially created the forest is greater than or equal to DS\_BEHAVIOR\_WIN2008, then the fATTINDEX bit is present by default in the [searchFlags](#Section_f0b64fa860134e3caad3ec881c11836d) attribute of the objectClass attribute; otherwise it is not present by default.

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectClassCategory

This attribute specifies the class type, such as abstract, auxiliary, or structured. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for how this attribute is used by the Active Directory service.

1. cn: Object-Class-Category
2. ldapDisplayName: objectClassCategory
3. attributeId: 1.2.840.113556.1.2.370
4. attributeSyntax: 2.5.5.9
5. omSyntax: 10
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679e6-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 3
12. mapiID: 33014
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectClasses

This attribute specifies a multivalued property containing strings that represent each class in the schema. Each value contains the governsID, lDAPDisplayName, mustContain, mayContain, and so on. For more information, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.3.1.1.1.

1. cn: Object-Classes
2. ldapDisplayName: objectClasses
3. attributeId: 2.5.21.6
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 9a7ad94b-ca53-11d1-bbd0-0080c76670c0
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
11. FLAG\_DOMAIN\_DISALLOW\_RENAME
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectCount

This attribute is not necessary for Active Directory to function. The protocol does not define a format beyond that required by the schema.

1. cn: Object-Count
2. ldapDisplayName: objectCount
3. attributeId: 1.2.840.113556.1.4.506
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 34aaa216-b699-11d0-afee-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute objectGUID

This attribute specifies the unique identifier for an object. The GUID data type is defined in [[MS-DTYP]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DTYP%5d.pdf) section 2.3.4. GUID usage by the Active Directory service is defined in [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf), in particular in section 3.1.1.1.3.

1. cn: Object-Guid
2. ldapDisplayName: objectGUID
3. attributeId: 1.2.840.113556.1.4.2
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679e7-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE | fATTINDEX
10. rangeLower: 16
11. rangeUpper: 16
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 35949
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectSid

This attribute specifies a binary value that specifies the security identifier (SID) of a security principal object. The SID is a unique value used to identify security principal objects. For more information on the SID data type, refer to [[MS-DTYP]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DTYP%5d.pdf) section 2.4.2. SID usage is also discussed in [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf), in particular in section 3.1.1.1.3.

Because this is an attribute of String(SID) syntax, an application writing to this attribute via the LDAP protocol can specify a value for this attribute as a valid SDDL SID string, as specified in [MS-ADTS] section 3.1.1.3.1.2.5. The directory service will convert that value to its binary value equivalent.

1. cn: Object-Sid
2. ldapDisplayName: objectSid
3. attributeId: 1.2.840.113556.1.4.146
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679e8-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE | fATTINDEX
10. rangeLower: 0
11. rangeUpper: 28
12. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
13. mapiID: 32807
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently:

1. systemOnly: FALSE

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute objectVersion

This attribute specifies a generic store for a version number for the object. Active Directory uses this attribute for a few operations. Refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2.1 for more information.

1. cn: Object-Version
2. ldapDisplayName: objectVersion
3. attributeId: 1.2.840.113556.1.2.76
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 16775848-47f3-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33015
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute oEMInformation

This attribute specifies OEM information.

1. cn: OEM-Information
2. ldapDisplayName: oEMInformation
3. attributeId: 1.2.840.113556.1.4.151
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679ea-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 32767
12. attributeSecurityGuid: b8119fd0-04f6-4762-ab7a-4986c76b3f9a
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute attributeSecurityGuid is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute oMObjectClass

This attribute specifies the unique object ID (OID) for the attribute or class. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2.2.2, "LDAP Representation", for information on how this object is used by the Active Directory service.

1. cn: OM-Object-Class
2. ldapDisplayName: oMObjectClass
3. attributeId: 1.2.840.113556.1.2.218
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679ec-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. mapiID: 33021
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute oMSyntax

Used as part of specifying the syntax of an attribute. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2.2.2, LDAP Representation, for information on how this object is used by the Active Directory service.

1. cn: OM-Syntax
2. ldapDisplayName: oMSyntax
3. attributeId: 1.2.840.113556.1.2.231
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679ed-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE
10. mapiID: 33022
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute oMTGuid

This attribute specifies the unique identifier for a Link-Track-Object-Move table entry.

1. cn: OMT-Guid
2. ldapDisplayName: oMTGuid
3. attributeId: 1.2.840.113556.1.4.505
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: ddac0cf3-af8f-11d0-afeb-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute oMTIndxGuid

This attribute specifies the index identifier for a Link-Track-Object-Move table entry.

1. cn: OMT-Indx-Guid
2. ldapDisplayName: oMTIndxGuid
3. attributeId: 1.2.840.113556.1.4.333
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 1f0075fa-7e40-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 0
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute oncRpcNumber

This attribute specifies a part of the RPC map and stores the RPC number for UNIX RPCs.

1. cn: OncRpcNumber
2. ldapDisplayName: oncRpcNumber
3. attributeId: 1.3.6.1.1.1.1.18
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 966825f5-01d9-4a5c-a011-d15ae84efa55
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute operatingSystem

This attribute specifies the operating system name (for example, Windows NT).

1. cn: Operating-System
2. ldapDisplayName: operatingSystem
3. attributeId: 1.2.840.113556.1.4.363
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978925-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute operatingSystemHotfix

This attribute specifies the hotfix level of the operating system.

1. cn: Operating-System-Hotfix
2. ldapDisplayName: operatingSystemHotfix
3. attributeId: 1.2.840.113556.1.4.415
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bd951b3c-9c96-11d0-afdd-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute operatingSystemServicePack

This attribute specifies the operating system service pack ID string (for example, SP3).

1. cn: Operating-System-Service-Pack
2. ldapDisplayName: operatingSystemServicePack
3. attributeId: 1.2.840.113556.1.4.365
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978927-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute operatingSystemVersion

This attribute specifies the operating system version string (for example, 4.0).

1. cn: Operating-System-Version
2. ldapDisplayName: operatingSystemVersion
3. attributeId: 1.2.840.113556.1.4.364
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978926-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute operatorCount

The Operator-Count attribute is part of the mandatory User\Group properties (see [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information).

1. cn: Operator-Count
2. ldapDisplayName: operatorCount
3. attributeId: 1.2.840.113556.1.4.144
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679ee-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute optionDescription

This attribute specifies a description of an option that is set on the DHCP server.

1. cn: Option-Description
2. ldapDisplayName: optionDescription
3. attributeId: 1.2.840.113556.1.4.712
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 963d274d-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute options

This attribute specifies a bit field, where the meaning of the bits varies from objectClass to objectClass. It can occur on Inter-Site-Transport, NTDS-Connection, NTDS-DSA, NTDS-Site-Settings, and Site-Link objects. See [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) and [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) more for information.

1. cn: Options
2. ldapDisplayName: options
3. attributeId: 1.2.840.113556.1.4.307
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 19195a53-6da0-11d0-afd3-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute optionsLocation

This attribute specifies the options location for the DHCP server, and contains the distinguished name (DN) for alternate sites that contain the options information.

1. cn: Options-Location
2. ldapDisplayName: optionsLocation
3. attributeId: 1.2.840.113556.1.4.713
4. attributeSyntax: 2.5.5.5
5. omSyntax: 19
6. isSingleValued: FALSE
7. schemaIdGuid: 963d274e-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute organizationalStatus

The organizationalStatus attribute specifies a category by which a person is often referred to in an organization. This attribute is part of the X.500 schema, as described in [[RFC1274]](http://go.microsoft.com/fwlink/?LinkId=90271).

1. cn: organizationalStatus
2. ldapDisplayName: organizationalStatus
3. attributeId: 0.9.2342.19200300.100.1.45
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 28596019-7349-4d2f-adff-5a629961f942
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 256

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute originalDisplayTable

This attribute specifies the MAPI (original) display table for an address entry.

1. cn: Original-Display-Table
2. ldapDisplayName: originalDisplayTable
3. attributeId: 1.2.840.113556.1.2.445
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 5fd424ce-1262-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 32768
12. mapiID: 33027

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute originalDisplayTableMSDOS

This attribute specifies the MAPI (original) display table for an MS-DOS address entry.

1. cn: Original-Display-Table-MSDOS
2. ldapDisplayName: originalDisplayTableMSDOS
3. attributeId: 1.2.840.113556.1.2.214
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 5fd424cf-1262-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 32768
12. mapiID: 33028

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherFacsimileTelephoneNumber

This attribute specifies a list of alternate facsimile numbers.

1. cn: Phone-Fax-Other
2. ldapDisplayName: otherFacsimileTelephoneNumber
3. attributeId: 1.2.840.113556.1.4.646
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0296c11d-40da-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherHomePhone

This attribute specifies a list of alternate home phone numbers.

1. cn: Phone-Home-Other
2. ldapDisplayName: otherHomePhone
3. attributeId: 1.2.840.113556.1.2.277
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: f0f8ffa2-1191-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14895
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherIpPhone

This attribute specifies a list of alternate TCP/IP addresses for the phone. It is used by telephony.

1. cn: Phone-Ip-Other
2. ldapDisplayName: otherIpPhone
3. attributeId: 1.2.840.113556.1.4.722
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 4d146e4b-48d4-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherLoginWorkstations

This attribute specifies non-Windows NT or LAN Manager workstations from which a user can log on.

1. cn: Other-Login-Workstations
2. ldapDisplayName: otherLoginWorkstations
3. attributeId: 1.2.840.113556.1.4.91
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679f1-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 0
11. rangeUpper: 1024
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherMailbox

This attribute specifies other additional mail addresses in a form such as CCMAIL: JeffSmith.

1. cn: Other-Mailbox
2. ldapDisplayName: otherMailbox
3. attributeId: 1.2.840.113556.1.4.651
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0296c123-40da-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherMobile

This attribute specifies a list of alternate cell phone numbers.

1. cn: Phone-Mobile-Other
2. ldapDisplayName: otherMobile
3. attributeId: 1.2.840.113556.1.4.647
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0296c11e-40da-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherPager

This attribute specifies a list of alternate pager numbers.

1. cn: Phone-Pager-Other
2. ldapDisplayName: otherPager
3. attributeId: 1.2.840.113556.1.2.118
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: f0f8ffa4-1191-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 35950
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherTelephone

This attribute specifies a list of alternate office phone numbers.

1. cn: Phone-Office-Other
2. ldapDisplayName: otherTelephone
3. attributeId: 1.2.840.113556.1.2.18
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: f0f8ffa5-1191-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14875
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute otherWellKnownObjects

This attribute specifies a list of containers by GUID and distinguished name. This permits retrieving an object after it has been moved by using just the GUID and the domain name. Whenever the object is moved, the Active Directory system [[MS-ADOD]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADOD%5d.pdf) will automatically update the distinguished name. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.

1. cn: Other-Well-Known-Objects
2. ldapDisplayName: otherWellKnownObjects
3. attributeId: 1.2.840.113556.1.4.1359
4. attributeSyntax: 2.5.5.7
5. omSyntax: 127
6. omObjectClass: 1.2.840.113556.1.1.1.11
7. isSingleValued: FALSE
8. schemaIdGuid: 1ea64e5d-ac0f-11d2-90df-00c04fd91ab1
9. systemOnly: FALSE
10. searchFlags: 0
11. rangeLower: 16
12. rangeUpper: 16
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeLower and rangeUpper are not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute ou

This attribute specifies the name of the organizational unit. When used as a component of a directory name, it identifies an organizational unit with which the named object is affiliated.

1. cn: Organizational-Unit-Name
2. ldapDisplayName: ou
3. attributeId: 2.5.4.11
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679f0-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 33026
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute owner

This attribute specifies the name of some object that has some responsibility for the associated object. An attribute value for owner is a distinguished name (which could represent a group of names) and can recur.

1. cn: Owner
2. ldapDisplayName: owner
3. attributeId: 2.5.4.32
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: bf9679f3-0de6-11d0-a285-00aa003049e2
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 44
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute ownerBL

This attribute specifies the back-link to the owner attribute. It contains a list of owners for an object.

1. cn: ms-Exch-Owner-BL
2. ldapDisplayName: ownerBL
3. attributeId: 1.2.840.113556.1.2.104
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: bf9679f4-0de6-11d0-a285-00aa003049e2
9. systemOnly: TRUE
10. searchFlags: 0
11. linkID: 45
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute packageFlags

This attribute specifies a bit field that contains the deployment state flags for an application. This attribute can be set to 0 or a combination of one or more of the values listed in [[MSDN-PACKAGE-FLAGS]](http://go.microsoft.com/fwlink/?LinkId=90058).

1. cn: Package-Flags
2. ldapDisplayName: packageFlags
3. attributeId: 1.2.840.113556.1.4.327
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 7d6c0e99-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute packageName

This attribute specifies the deployment name for an application.

1. cn: Package-Name
2. ldapDisplayName: packageName
3. attributeId: 1.2.840.113556.1.4.326
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 7d6c0e98-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute packageType

This attribute specifies the type of installation required for an application package. For example, MSI, EXE, CAB.

1. cn: Package-Type
2. ldapDisplayName: packageType
3. attributeId: 1.2.840.113556.1.4.324
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 7d6c0e96-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pager

This attribute specifies the primary pager number.

1. cn: Phone-Pager-Primary
2. ldapDisplayName: pager
3. attributeId: 0.9.2342.19200300.100.1.42
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: f0f8ffa6-1191-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14881
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute parentCA

This attribute specifies the distinguished name of a CA object for a parent certificate authority.

1. cn: Parent-CA
2. ldapDisplayName: parentCA
3. attributeId: 1.2.840.113556.1.4.557
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 5245801b-ca6a-11d0-afff-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute parentCACertificateChain

This attribute specifies the DER-encoded X509v3 certificate [[X509]](http://go.microsoft.com/fwlink/?LinkId=90590) for a parent certificate authority.

1. cn: Parent-CA-Certificate-Chain
2. ldapDisplayName: parentCACertificateChain
3. attributeId: 1.2.840.113556.1.4.685
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 963d2733-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute parentGUID

This attribute specifies a constructed attribute, invented to support the DirSync control. It holds the objectGuid of an object's parent when replicating an object's creation, rename, or move.

1. cn: Parent-GUID
2. ldapDisplayName: parentGUID
3. attributeId: 1.2.840.113556.1.4.1224
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 2df90d74-009f-11d2-aa4c-00c04fd7d83a
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
11. FLAG\_DOMAIN\_DISALLOW\_RENAME
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute partialAttributeDeletionList

This attribute specifies the internal replication state of partial replicas (that is, on global catalogs (GCs)). It is an attribute of the partial replica NC object and is used when the GC is in the process of removing attributes from the objects in its partial replica NCs. See [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) for more information on implementation usage.

1. cn: Partial-Attribute-Deletion-List
2. ldapDisplayName: partialAttributeDeletionList
3. attributeId: 1.2.840.113556.1.4.663
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 28630ec0-41d5-11d1-a9c1-0000f80367c1
8. systemOnly: TRUE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
12. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute partialAttributeSet

This attribute specifies the internal replication state of partial replicas (that is, on GCs). It is an attribute of the partial replica NC object, and defines the set of attributes present on a particular partial replica NC. See [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 5.147 for more information on Active Directory service usage.

1. cn: Partial-Attribute-Set
2. ldapDisplayName: partialAttributeSet
3. attributeId: 1.2.840.113556.1.4.640
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 19405b9e-3cfa-11d1-a9c0-0000f80367c1
8. systemOnly: TRUE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
12. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute pekKeyChangeInterval

This attribute specifies the password encryption key change interval. For more information, refer to [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf).

1. cn: Pek-Key-Change-Interval
2. ldapDisplayName: pekKeyChangeInterval
3. attributeId: 1.2.840.113556.1.4.866
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 07383084-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pekList

This attribute specifies a list of password encryption keys. This attribute is for internal use only and it is not replicated. Its content is not accessible through any protocol, for more information see [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf).

1. cn: Pek-List
2. ldapDisplayName: pekList
3. attributeId: 1.2.840.113556.1.4.865
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 07383083-91df-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute pendingCACertificates

This attribute specifies the certificates that are about to become effective for this certificate authority.

1. cn: Pending-CA-Certificates
2. ldapDisplayName: pendingCACertificates
3. attributeId: 1.2.840.113556.1.4.693
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 963d273c-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pendingParentCA

This attribute specifies the reference to the certificate authorities that issued the pending certificates for this certificate authority.

1. cn: Pending-Parent-CA
2. ldapDisplayName: pendingParentCA
3. attributeId: 1.2.840.113556.1.4.695
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 963d273e-48be-11d1-a9c3-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute perMsgDialogDisplayTable

This attribute specifies the per message options MAPI display table.

1. cn: Per-Msg-Dialog-Display-Table
2. ldapDisplayName: perMsgDialogDisplayTable
3. attributeId: 1.2.840.113556.1.2.325
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 5fd424d3-1262-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 32768
12. mapiID: 33032

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute perRecipDialogDisplayTable

This attribute specifies the per recipient options MAPI display table.

1. cn: Per-Recip-Dialog-Display-Table
2. ldapDisplayName: perRecipDialogDisplayTable
3. attributeId: 1.2.840.113556.1.2.326
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 5fd424d4-1262-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 32768
12. mapiID: 33033

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute personalTitle

This attribute specifies the user's title.

1. cn: Personal-Title
2. ldapDisplayName: personalTitle
3. attributeId: 1.2.840.113556.1.2.615
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 16775858-47f3-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 35947
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute photo

This attribute specifies an object encoded in G3 fax as explained in recommendation T.4 [[RFC804]](http://go.microsoft.com/fwlink/?LinkId=110405), with an ASN.1 wrapper to make it compatible with an X.400 BodyPart as defined in [[X420]](http://go.microsoft.com/fwlink/?LinkId=110403).

1. cn: photo
2. ldapDisplayName: photo
3. attributeId: 0.9.2342.19200300.100.1.7
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 9c979768-ba1a-4c08-9632-c6a5c1ed649a
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute physicalDeliveryOfficeName

This attribute specifies the office location in the user's place of business.

1. cn: Physical-Delivery-Office-Name
2. ldapDisplayName: physicalDeliveryOfficeName
3. attributeId: 2.5.4.19
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679f7-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fANR | fATTINDEX
10. rangeLower: 1
11. rangeUpper: 128
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14873
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute physicalLocationObject

This attribute specifies a map from a device (for example, printer, computer, and so on) to a physical location.

1. cn: Physical-Location-Object
2. ldapDisplayName: physicalLocationObject
3. attributeId: 1.2.840.113556.1.4.514
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: b7b13119-b82e-11d0-afee-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: fATTINDEX
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKICriticalExtensions

This attribute specifies a list of critical extensions in the certificate template.

1. cn: PKI-Critical-Extensions
2. ldapDisplayName: pKICriticalExtensions
3. attributeId: 1.2.840.113556.1.4.1330
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: fc5a9106-3b9d-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIDefaultCSPs

This attribute specifies a list of cryptographic service providers for the certificate template.

1. cn: PKI-Default-CSPs
2. ldapDisplayName: pKIDefaultCSPs
3. attributeId: 1.2.840.113556.1.4.1334
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 1ef6336e-3b9e-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIDefaultKeySpec

This attribute specifies the private key specification for the certificate template.

1. cn: PKI-Default-Key-Spec
2. ldapDisplayName: pKIDefaultKeySpec
3. attributeId: 1.2.840.113556.1.4.1327
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 426cae6e-3b9d-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIEnrollmentAccess

The PKI-Enrollment-Access attribute is for internal use only.

1. cn: PKI-Enrollment-Access
2. ldapDisplayName: pKIEnrollmentAccess
3. attributeId: 1.2.840.113556.1.4.1335
4. attributeSyntax: 2.5.5.15
5. omSyntax: 66
6. isSingleValued: FALSE
7. schemaIdGuid: 926be278-56f9-11d2-90d0-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIExpirationPeriod

This attribute specifies the validity period for the certificate template.

1. cn: PKI-Expiration-Period
2. ldapDisplayName: pKIExpirationPeriod
3. attributeId: 1.2.840.113556.1.4.1331
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 041570d2-3b9e-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIExtendedKeyUsage

This attribute specifies the enhanced key usage OIDs for the certificate template.

1. cn: PKI-Extended-Key-Usage
2. ldapDisplayName: pKIExtendedKeyUsage
3. attributeId: 1.2.840.113556.1.4.1333
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 18976af6-3b9e-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIKeyUsage

This attribute specifies the key usage extension for the certificate template.

1. cn: PKI-Key-Usage
2. ldapDisplayName: pKIKeyUsage
3. attributeId: 1.2.840.113556.1.4.1328
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: e9b0a87e-3b9d-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIMaxIssuingDepth

This attribute specifies the maximum length of the certificate chain issued by the certificate.

1. cn: PKI-Max-Issuing-Depth
2. ldapDisplayName: pKIMaxIssuingDepth
3. attributeId: 1.2.840.113556.1.4.1329
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: f0bfdefa-3b9d-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKIOverlapPeriod

This attribute specifies the period during which the certificate should be renewed before it is expired.

1. cn: PKI-Overlap-Period
2. ldapDisplayName: pKIOverlapPeriod
3. attributeId: 1.2.840.113556.1.4.1332
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 1219a3ec-3b9e-11d2-90cc-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pKT

This attribute specifies the DFS Partition Knowledge Table. It describes the structure of a Distributed File System (DFS) hierarchy.

1. cn: PKT
2. ldapDisplayName: pKT
3. attributeId: 1.2.840.113556.1.4.206
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 8447f9f1-1027-11d0-a05f-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 10485760
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeUpper is not defined.

## Attribute pKTGuid

This attribute specifies the unique ID of a given DFS Partition Knowledge Table.

1. cn: PKT-Guid
2. ldapDisplayName: pKTGuid
3. attributeId: 1.2.840.113556.1.4.205
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 8447f9f0-1027-11d0-a05f-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 16
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute policyReplicationFlags

This attribute specifies which LSA properties are replicated to clients. This attribute is not necessary for Active Directory to function. The protocol does not define a format beyond that required by the schema.

1. cn: Policy-Replication-Flags
2. ldapDisplayName: policyReplicationFlags
3. attributeId: 1.2.840.113556.1.4.633
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 19405b96-3cfa-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute portName

This attribute specifies a list of port names, for example, for printer ports or COM ports.

1. cn: Port-Name
2. ldapDisplayName: portName
3. attributeId: 1.2.840.113556.1.4.228
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 281416c4-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute possibleInferiors

This attribute specifies the list of classes, instances of which can be child objects of instances of the class on which the possInferiors attribute is present. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.4.5.21 for more information on Active Directory usage.

1. cn: Possible-Inferiors
2. ldapDisplayName: possibleInferiors
3. attributeId: 1.2.840.113556.1.4.915
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: 9a7ad94c-ca53-11d1-bbd0-0080c76670c0
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
11. FLAG\_DOMAIN\_DISALLOW\_RENAME
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute possSuperiors

This attribute specifies a list of classes, instances of which can be parent objects of the instances of the class on which the possSuperiors attribute is present. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2.4.4 for more information on Active Directory usage.

1. cn: Poss-Superiors
2. ldapDisplayName: possSuperiors
3. attributeId: 1.2.840.113556.1.2.8
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679fa-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute postalAddress

This attribute specifies the mailing address for the object.

1. cn: Postal-Address
2. ldapDisplayName: postalAddress
3. attributeId: 2.5.4.16
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679fc-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 1
11. rangeUpper: 4096
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 33036
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute postalCode

This attribute specifies the postal or ZIP code for mail delivery.

1. cn: Postal-Code
2. ldapDisplayName: postalCode
3. attributeId: 2.5.4.17
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679fd-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 1
11. rangeUpper: 40
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14890
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute postOfficeBox

This attribute specifies the post office box number for this object.

1. cn: Post-Office-Box
2. ldapDisplayName: postOfficeBox
3. attributeId: 2.5.4.18
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679fb-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 1
11. rangeUpper: 40
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14891
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute preferredDeliveryMethod

This attribute specifies the X.500-preferred way to deliver to the addressee, as specified in [[X500]](http://go.microsoft.com/fwlink/?LinkId=90589).

1. cn: Preferred-Delivery-Method
2. ldapDisplayName: preferredDeliveryMethod
3. attributeId: 2.5.4.28
4. attributeSyntax: 2.5.5.9
5. omSyntax: 10
6. isSingleValued: FALSE
7. schemaIdGuid: bf9679fe-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
11. mapiID: 33037
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute preferredLanguage

This attribute specifies the preferred written or spoken language for a person.

1. cn: preferredLanguage
2. ldapDisplayName: preferredLanguage
3. attributeId: 2.16.840.1.113730.3.1.39
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 856be0d0-18e7-46e1-8f5f-7ee4d9020e0d
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute preferredOU

This attribute specifies the organizational unit to show by default on the user's desktop.

1. cn: Preferred-OU
2. ldapDisplayName: preferredOU
3. attributeId: 1.2.840.113556.1.4.97
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: bf9679ff-0de6-11d0-a285-00aa003049e2
9. systemOnly: FALSE
10. searchFlags: fCOPY
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute prefixMap

The prefixMap attribute is for internal use only.

1. cn: Prefix-Map
2. ldapDisplayName: prefixMap
3. attributeId: 1.2.840.113556.1.4.538
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 52458022-ca6a-11d0-afff-0000f80367c1
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute presentationAddress

This attribute specifies a presentation address associated with an object representing an OSI application entity.

1. cn: Presentation-Address
2. ldapDisplayName: presentationAddress
3. attributeId: 2.5.4.29
4. attributeSyntax: 2.5.5.13
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.732
7. isSingleValued: TRUE
8. schemaIdGuid: a8df744b-c5ea-11d1-bbcb-0080c76670c0
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute previousCACertificates

This attribute specifies the last expired certificate for this certificate authority.

1. cn: Previous-CA-Certificates
2. ldapDisplayName: previousCACertificates
3. attributeId: 1.2.840.113556.1.4.692
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 963d2739-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute previousParentCA

This attribute specifies a reference to the certificate authorities that issued the last expired certificate for a certificate authority.

1. cn: Previous-Parent-CA
2. ldapDisplayName: previousParentCA
3. attributeId: 1.2.840.113556.1.4.694
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 963d273d-48be-11d1-a9c3-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute primaryGroupID

This attribute specifies the relative identifier (RID) for the primary group of the user. By default, this is the RID for the Domain Users group. The user is a member of its primary group, although the group is not listed in the user's memberOf attribute. Likewise, a group object's member attribute will not list the user objects whose primaryGroupID is set to the group. For more information, refer to [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) section 3.1.1.8.2, [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf), and [[MS-ADA2]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADA2%5d.pdf) sections 2.43 and 2.45.

1. cn: Primary-Group-ID
2. ldapDisplayName: primaryGroupID
3. attributeId: 1.2.840.113556.1.4.98
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a00-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY| fATTINDEX
10. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute primaryGroupToken

This attribute specifies a computed attribute that is the relative identifier (RID) of a group's SID. For more information refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.4.5.11 and [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf).

1. cn: Primary-Group-Token
2. ldapDisplayName: primaryGroupToken
3. attributeId: 1.2.840.113556.1.4.1412
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: c0ed8738-7efd-4481-84d9-66d2db8be369
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute primaryInternationalISDNNumber

This attribute specifies the primary ISDN number.

1. cn: Phone-ISDN-Primary
2. ldapDisplayName: primaryInternationalISDNNumber
3. attributeId: 1.2.840.113556.1.4.649
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 0296c11f-40da-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute primaryTelexNumber

This attribute specifies the primary telex number.

1. cn: Telex-Primary
2. ldapDisplayName: primaryTelexNumber
3. attributeId: 1.2.840.113556.1.4.648
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 0296c121-40da-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printAttributes

This attribute specifies a bitmask of printer attributes.

1. cn: Print-Attributes
2. ldapDisplayName: printAttributes
3. attributeId: 1.2.840.113556.1.4.247
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 281416d7-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printBinNames

This attribute specifies a list of printer bin names.

1. cn: Print-Bin-Names
2. ldapDisplayName: printBinNames
3. attributeId: 1.2.840.113556.1.4.237
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 281416cd-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printCollate

This attribute specifies whether a printer has collating bins.

1. cn: Print-Collate
2. ldapDisplayName: printCollate
3. attributeId: 1.2.840.113556.1.4.242
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 281416d2-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printColor

This attribute specifies whether a printer can print in color.

1. cn: Print-Color
2. ldapDisplayName: printColor
3. attributeId: 1.2.840.113556.1.4.243
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 281416d3-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printDuplexSupported

This attribute specifies the type of duplex support a printer has.

1. cn: Print-Duplex-Supported
2. ldapDisplayName: printDuplexSupported
3. attributeId: 1.2.840.113556.1.4.1311
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 281416cc-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printEndTime

This attribute specifies the time a print queue stops servicing jobs.

1. cn: Print-End-Time
2. ldapDisplayName: printEndTime
3. attributeId: 1.2.840.113556.1.4.234
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 281416ca-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printerName

This attribute specifies the display name of an attached printer.

1. cn: Printer-Name
2. ldapDisplayName: printerName
3. attributeId: 1.2.840.113556.1.4.300
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 244b296e-5abd-11d0-afd2-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printFormName

This attribute specifies the name of the currently loaded form.

1. cn: Print-Form-Name
2. ldapDisplayName: printFormName
3. attributeId: 1.2.840.113556.1.4.235
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 281416cb-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printKeepPrintedJobs

This attribute specifies whether printed jobs are kept.

1. cn: Print-Keep-Printed-Jobs
2. ldapDisplayName: printKeepPrintedJobs
3. attributeId: 1.2.840.113556.1.4.275
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f6d-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printLanguage

This attribute specifies the supported page description language (for example, PostScript, PCL).

1. cn: Print-Language
2. ldapDisplayName: printLanguage
3. attributeId: 1.2.840.113556.1.4.246
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 281416d6-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 256
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMACAddress

This attribute specifies the user-supplied MAC address.

1. cn: Print-MAC-Address
2. ldapDisplayName: printMACAddress
3. attributeId: 1.2.840.113556.1.4.288
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f7a-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMaxCopies

This attribute specifies the maximum number of copies a device can print.

1. cn: Print-Max-Copies
2. ldapDisplayName: printMaxCopies
3. attributeId: 1.2.840.113556.1.4.241
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 281416d1-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMaxResolutionSupported

This attribute specifies the maximum printer resolution.

1. cn: Print-Max-Resolution-Supported
2. ldapDisplayName: printMaxResolutionSupported
3. attributeId: 1.2.840.113556.1.4.238
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 281416cf-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMaxXExtent

This attribute specifies the maximum horizontal print region.

1. cn: Print-Max-X-Extent
2. ldapDisplayName: printMaxXExtent
3. attributeId: 1.2.840.113556.1.4.277
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f6f-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMaxYExtent

This attribute specifies the maximum vertical print region.

1. cn: Print-Max-Y-Extent
2. ldapDisplayName: printMaxYExtent
3. attributeId: 1.2.840.113556.1.4.278
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f70-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMediaReady

This attribute specifies a list of available media for a printer.

1. cn: Print-Media-Ready
2. ldapDisplayName: printMediaReady
3. attributeId: 1.2.840.113556.1.4.289
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 3bcbfcf5-4d3d-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

## Attribute printMediaSupported

This attribute specifies a list of media supported by a printer.

1. cn: Print-Media-Supported
2. ldapDisplayName: printMediaSupported
3. attributeId: 1.2.840.113556.1.4.299
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 244b296f-5abd-11d0-afd2-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMemory

This attribute specifies the amount of memory installed in a printer.

1. cn: Print-Memory
2. ldapDisplayName: printMemory
3. attributeId: 1.2.840.113556.1.4.282
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f74-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMinXExtent

This attribute specifies the minimum horizontal print region.

1. cn: Print-Min-X-Extent
2. ldapDisplayName: printMinXExtent
3. attributeId: 1.2.840.113556.1.4.279
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f71-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printMinYExtent

This attribute specifies the minimum vertical print region.

1. cn: Print-Min-Y-Extent
2. ldapDisplayName: printMinYExtent
3. attributeId: 1.2.840.113556.1.4.280
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f72-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printNetworkAddress

This attribute specifies the user-supplied network address.

1. cn: Print-Network-Address
2. ldapDisplayName: printNetworkAddress
3. attributeId: 1.2.840.113556.1.4.287
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f79-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printNotify

This attribute specifies a user-supplied string specifying the notification contact.

1. cn: Print-Notify
2. ldapDisplayName: printNotify
3. attributeId: 1.2.840.113556.1.4.272
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f6a-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printNumberUp

This attribute specifies the number of page images per sheet.

1. cn: Print-Number-Up
2. ldapDisplayName: printNumberUp
3. attributeId: 1.2.840.113556.1.4.290
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 3bcbfcf4-4d3d-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printOrientationsSupported

This attribute specifies the page rotation for landscape printing.

1. cn: Print-Orientations-Supported
2. ldapDisplayName: printOrientationsSupported
3. attributeId: 1.2.840.113556.1.4.240
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 281416d0-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 256
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printOwner

This attribute specifies a user-supplied owner string.

1. cn: Print-Owner
2. ldapDisplayName: printOwner
3. attributeId: 1.2.840.113556.1.4.271
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f69-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printPagesPerMinute

This attribute specifies the driver-supplied print rate in pages per minute.

1. cn: Print-Pages-Per-Minute
2. ldapDisplayName: printPagesPerMinute
3. attributeId: 1.2.840.113556.1.4.631
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 19405b97-3cfa-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printRate

This attribute specifies the driver-supplied print rate.

1. cn: Print-Rate
2. ldapDisplayName: printRate
3. attributeId: 1.2.840.113556.1.4.285
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f77-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printRateUnit

This attribute specifies the driver-supplied print rate unit.

1. cn: Print-Rate-Unit
2. ldapDisplayName: printRateUnit
3. attributeId: 1.2.840.113556.1.4.286
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f78-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

## Attribute printSeparatorFile

This attribute specifies the file path of the printer separator page.

1. cn: Print-Separator-File
2. ldapDisplayName: printSeparatorFile
3. attributeId: 1.2.840.113556.1.4.230
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 281416c6-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printShareName

This attribute specifies the printer's share name.

1. cn: Print-Share-Name
2. ldapDisplayName: printShareName
3. attributeId: 1.2.840.113556.1.4.270
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: ba305f68-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printSpooling

This attribute specifies a string representing the type of printer spooling.

1. cn: Print-Spooling
2. ldapDisplayName: printSpooling
3. attributeId: 1.2.840.113556.1.4.274
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f6c-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printStaplingSupported

This attribute specifies if the printer supports stapling. It is supplied by the driver.

1. cn: Print-Stapling-Supported
2. ldapDisplayName: printStaplingSupported
3. attributeId: 1.2.840.113556.1.4.281
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f73-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printStartTime

This attribute specifies the time a print queue begins servicing jobs.

1. cn: Print-Start-Time
2. ldapDisplayName: printStartTime
3. attributeId: 1.2.840.113556.1.4.233
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 281416c9-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute printStatus

This attribute specifies the status from the print spooler.

1. cn: Print-Status
2. ldapDisplayName: printStatus
3. attributeId: 1.2.840.113556.1.4.273
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: ba305f6b-47e3-11d0-a1a6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute priority

This attribute specifies the current priority (of a process, print job, and so on).

1. cn: Priority
2. ldapDisplayName: priority
3. attributeId: 1.2.840.113556.1.4.231
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 281416c7-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute priorSetTime

This attribute specifies the previous time set for a secret.

1. cn: Prior-Set-Time
2. ldapDisplayName: priorSetTime
3. attributeId: 1.2.840.113556.1.4.99
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a01-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute priorValue

This attribute specifies the previous value for a secret.

1. cn: Prior-Value
2. ldapDisplayName: priorValue
3. attributeId: 1.2.840.113556.1.4.100
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a02-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute privateKey

This attribute specifies an encrypted private key.

1. cn: Private-Key
2. ldapDisplayName: privateKey
3. attributeId: 1.2.840.113556.1.4.101
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a03-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute privilegeAttributes

This attribute specifies a bitmask of privilege attributes.

1. cn: Privilege-Attributes
2. ldapDisplayName: privilegeAttributes
3. attributeId: 1.2.840.113556.1.4.636
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 19405b9a-3cfa-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute privilegeDisplayName

This attribute specifies a display name for a Windows NT privilege.

1. cn: Privilege-Display-Name
2. ldapDisplayName: privilegeDisplayName
3. attributeId: 1.2.840.113556.1.4.634
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 19405b98-3cfa-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute privilegeHolder

This attribute specifies a list of distinguished names of principals that are granted this privilege.

1. cn: Privilege-Holder
2. ldapDisplayName: privilegeHolder
3. attributeId: 1.2.840.113556.1.4.637
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 19405b9b-3cfa-11d1-a9c0-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 70
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute privilegeValue

This attribute specifies a value representing a Windows NT privilege.

1. cn: Privilege-Value
2. ldapDisplayName: privilegeValue
3. attributeId: 1.2.840.113556.1.4.635
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 19405b99-3cfa-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute productCode

This attribute specifies a unique identifier for an application for a particular product release, represented as a string GUID, for example, "{12345678-1234-1234-1234-123456789012}". Letters used in this GUID must be uppercase. This ID must vary for different versions and languages.

1. cn: Product-Code
2. ldapDisplayName: productCode
3. attributeId: 1.2.840.113556.1.4.818
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: d9e18317-8939-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute profilePath

This attribute specifies a path to the user's profile. This value can be a null string, a local absolute path, or a UNC path.

1. cn: Profile-Path
2. ldapDisplayName: profilePath
3. attributeId: 1.2.840.113556.1.4.139
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a05-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. attributeSecurityGuid: 5f202010-79a5-11d0-9020-00c04fc2d4cf
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute proxiedObjectName

This attribute specifies an internal tracking object used by Active Directory to help track interdomain moves.

1. cn: Proxied-Object-Name
2. ldapDisplayName: proxiedObjectName
3. attributeId: 1.2.840.113556.1.4.1249
4. attributeSyntax: 2.5.5.7
5. omSyntax: 127
6. omObjectClass: 1.2.840.113556.1.1.1.11
7. isSingleValued: TRUE
8. schemaIdGuid: e1aea402-cd5b-11d0-afff-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: 0
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute proxyAddresses

A proxy address is the address by which an Exchange Server recipient object is recognized in a foreign mail system. Proxy addresses are required for all recipient objects, such as custom recipients and distribution lists.

1. cn: Proxy-Addresses
2. ldapDisplayName: proxyAddresses
3. attributeId: 1.2.840.113556.1.2.210
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a06-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fANR | fATTINDEX
10. rangeLower: 1
11. rangeUpper: 1123
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 32783
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
15. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute proxyGenerationEnabled

This attribute specifies whether proxy generation is enabled.

1. cn: Proxy-Generation-Enabled
2. ldapDisplayName: proxyGenerationEnabled
3. attributeId: 1.2.840.113556.1.2.523
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 5fd424d6-1262-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33201

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute proxyLifetime

This attribute specifies the lifetime for a proxy object.

1. cn: Proxy-Lifetime
2. ldapDisplayName: proxyLifetime
3. attributeId: 1.2.840.113556.1.4.103
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a07-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute publicKeyPolicy

This attribute specifies a reference to the public key policy for this domain.

1. cn: Public-Key-Policy
2. ldapDisplayName: publicKeyPolicy
3. attributeId: 1.2.840.113556.1.4.420
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 80a67e28-9f22-11d0-afdd-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: a29b89fd-c7e8-11d0-9bae-00c04fd92ef5
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute purportedSearch

This attribute specifies the search argument for an address book view.

1. cn: Purported-Search
2. ldapDisplayName: purportedSearch
3. attributeId: 1.2.840.113556.1.4.886
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: b4b54e50-943a-11d1-aebd-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 2048
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute pwdHistoryLength

This attribute specifies the number of old passwords to save. See [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) and [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) references for more information on how Active Directory uses this attribute.

1. cn: Pwd-History-Length
2. ldapDisplayName: pwdHistoryLength
3. attributeId: 1.2.840.113556.1.4.95
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a09-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 65535
12. attributeSecurityGuid: c7407360-20bf-11d0-a768-00aa006e0529
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute pwdLastSet

This attribute specifies the date and time that the password for this account was last changed. This value is stored as a large integer that represents the number of 100 nanosecond intervals since January 1, 1601 (UTC). If this value is set to 0 and the [User-Account-Control](#Section_01cf3969bc7f42949223f15668557f5f) attribute does not contain the ADS\_UF\_DONT\_EXPIRE\_PASSWD flag, the user must set the password at the next logon. See [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) section 3.1.1.8.8 and [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information on how Active Directory uses this attribute.

1. cn: Pwd-Last-Set
2. ldapDisplayName: pwdLastSet
3. attributeId: 1.2.840.113556.1.4.96
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a0a-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 4c164200-20c0-11d0-a768-00aa006e0529
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute pwdProperties

This attribute specifies an unsigned long numeric that, bit by bit, is home to several true/false policies, most of which can be configured under the default domain policy Group Policy Object's (GPO's) Computer Configuration\Windows Settings\Security Settings\Account Policies\Password Policy folder. For example, the DOMAIN\_PASSWORD\_COMPLEX setting, which can be configured through a GPO's Passwords must meet complexity requirements policy, occupies pwdProperties' first bit. See [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) for more information on bit descriptions.

1. cn: Pwd-Properties
2. ldapDisplayName: pwdProperties
3. attributeId: 1.2.840.113556.1.4.93
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a0b-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: c7407360-20bf-11d0-a768-00aa006e0529
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute qualityOfService

This attribute specifies the local/domain quality of service bits on policy objects.

1. cn: Quality-Of-Service
2. ldapDisplayName: qualityOfService
3. attributeId: 1.2.840.113556.1.4.458
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 80a67e4e-9f22-11d0-afdd-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: a29b8a01-c7e8-11d0-9bae-00c04fd92ef5
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute queryFilter

This attribute specifies a Query-Filter. It is used by Active Directory administrative tools to store saved queries on display specifiers.

1. cn: Query-Filter
2. ldapDisplayName: queryFilter
3. attributeId: 1.2.840.113556.1.4.1355
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: cbf70a26-7e78-11d2-9921-0000f87a57d4
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute queryPoint

This attribute specifies the URL or UNC of a query page or other front end for accessing a catalog.

1. cn: QueryPoint
2. ldapDisplayName: queryPoint
3. attributeId: 1.2.840.113556.1.4.680
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 7bfdcb86-4807-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute queryPolicyBL

This attribute is the back link attribute of queryPolicy and contains a list of all objects holding references to a given Query-Policy.

1. cn: Query-Policy-BL
2. ldapDisplayName: queryPolicyBL
3. attributeId: 1.2.840.113556.1.4.608
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: e1aea404-cd5b-11d0-afff-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: 0
11. linkID: 69
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute queryPolicyObject

This attribute specifies the reference to the default Query-Policy in force for this server.

1. cn: Query-Policy-Object
2. ldapDisplayName: queryPolicyObject
3. attributeId: 1.2.840.113556.1.4.607
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: e1aea403-cd5b-11d0-afff-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 68
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rangeLower

This attribute specifies a lower range of values that are allowed for an attribute, and is optional.

For syntax Integer, LargeInteger, Enumeration, String(UTC-time), and String(Generalized-time), rangeLower equals the minimum allowed value. For syntax Object(DN-binary) and Object(DN-String), rangeLower equals the minimum length of the binary\_value or string\_value portion of the given value. For String(Unicode), rangeLower is the minimum length, in Unicode characters. rangeLower is not used on syntax Boolean and Object(DS-DN). For all other syntaxes, rangeLower equals the minimum length in bytes. Note that rangeLower is a 32-bit integer and cannot express the full range of LargeInteger, String(UTC-time), and String(Generalized-time).

1. cn: Range-Lower
2. ldapDisplayName: rangeLower
3. attributeId: 1.2.840.113556.1.2.34
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a0c-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33043
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rangeUpper

This attribute specifies an upper range of values that are allowed for an attribute, and is optional.

For syntax Integer, LargeInteger, Enumeration, String(UTC-time), and String(Generalized-time), rangeUpper equals the maximum allowed value. For syntax Object(DN-binary) and Object(DN-String), rangeUpper equals the maximum length of the binary\_value or string\_value portion of the given value. For String(Unicode), rangeUpper is the maximum length, in Unicode characters. rangeUpper is not used on syntax Boolean and Object(DS-DN). For all other syntaxes, rangeUpper equals the maximum length in bytes. Note that rangeUpper is a 32-bit integer and cannot express the full range of LargeInteger, String(UTC-time), and String(Generalized-time).

1. cn: Range-Upper
2. ldapDisplayName: rangeUpper
3. attributeId: 1.2.840.113556.1.2.35
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a0d-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33044
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rDNAttID

This attribute specifies the attributeId of the **RDN** attribute. If the value is not defined, it will be inherited from the superclass of the class in which this attribute appears. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) sections 3.1.1.2.4.8 and 3.1.1.3.1.2.1 for more information.

1. cn: RDN-Att-ID
2. ldapDisplayName: rDNAttID
3. attributeId: 1.2.840.113556.1.2.26
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a0f-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute registeredAddress

This attribute specifies a mnemonic for an address associated with an object at a particular city location. The mnemonic is registered in the country/region in which the city is located and is used in the provision of the Public Telegram Service.

1. cn: Registered-Address
2. ldapDisplayName: registeredAddress
3. attributeId: 2.5.4.26
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a10-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 4096
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 33049

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute remoteServerName

This attribute specifies where one or more machine names must be stored.

1. cn: Remote-Server-Name
2. ldapDisplayName: remoteServerName
3. attributeId: 1.2.840.113556.1.4.105
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a12-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute remoteSource

This attribute specifies a back pointer to foreign objects.

1. cn: Remote-Source
2. ldapDisplayName: remoteSource
3. attributeId: 1.2.840.113556.1.4.107
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a14-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 1024
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute remoteSourceType

This attribute specifies a type of pointer to a foreign object.

1. cn: Remote-Source-Type
2. ldapDisplayName: remoteSourceType
3. attributeId: 1.2.840.113556.1.4.108
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a15-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute remoteStorageGUID

This attribute specifies the GUID for a remote storage object.

1. cn: Remote-Storage-GUID
2. ldapDisplayName: remoteStorageGUID
3. attributeId: 1.2.840.113556.1.4.809
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 2a39c5b0-8960-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute replicaSource

This attribute specifies the GUID of a replication source. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: Replica-Source
2. ldapDisplayName: replicaSource
3. attributeId: 1.2.840.113556.1.4.109
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a18-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute replInterval

This attribute specifies the attribute of Site-Link objects that defines the interval, in minutes, between replication cycles among the sites in the Site-List. Must be a multiple of 15 minutes (the granularity of cross-site DS replication), a minimum of 15 minutes, and a maximum of 10,080 minutes (one week). For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: Repl-Interval
2. ldapDisplayName: replInterval
3. attributeId: 1.2.840.113556.1.4.1336
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 45ba9d1a-56fa-11d2-90d0-00c04fd91ab1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute replPropertyMetaData

This attribute specifies the internal replication state information for directory service (DS) objects. Information here can be extracted in public form through the public API DsReplicaGetInfo(). Present on all DS objects. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: Repl-Property-Meta-Data
2. ldapDisplayName: replPropertyMetaData
3. attributeId: 1.2.840.113556.1.4.3
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 281416c0-1968-11d0-a28f-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_OPERATIONAL |
12. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently.

1. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
2. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute replTopologyStayOfExecution

This attribute specifies the delay between deleting a server object and it being permanently removed from the replication topology. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: Repl-Topology-Stay-Of-Execution
2. ldapDisplayName: replTopologyStayOfExecution
3. attributeId: 1.2.840.113556.1.4.677
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 7bfdcb83-4807-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute replUpToDateVector

This attribute specifies the internal replication state information for an entire NC. Information here can be extracted in public form through the API DsReplicaGetInfo(). Present on all NC root objects. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 5.166.

1. cn: Repl-UpToDate-Vector
2. ldapDisplayName: replUpToDateVector
3. attributeId: 1.2.840.113556.1.4.4
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a16-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
12. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute repsFrom

This attribute specifies a list for the servers from which the directory will accept changes for the defined naming context. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 5.172.

1. cn: Reps-From
2. ldapDisplayName: repsFrom
3. attributeId: 1.2.840.113556.1.2.91
4. attributeSyntax: 2.5.5.10
5. omSyntax: 127
6. omObjectClass: 1.2.840.113556.1.1.1.6
7. isSingleValued: FALSE
8. schemaIdGuid: bf967a1d-0de6-11d0-a285-00aa003049e2
9. systemOnly: TRUE
10. searchFlags: 0
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute repsTo

This attribute specifies the list of servers that the directory will notify of changes and servers to which the directory will send changes on request for the defined naming context. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 5.173.

1. cn: Reps-To
2. ldapDisplayName: repsTo
3. attributeId: 1.2.840.113556.1.2.83
4. attributeSyntax: 2.5.5.10
5. omSyntax: 127
6. omObjectClass: 1.2.840.113556.1.1.1.6
7. isSingleValued: FALSE
8. schemaIdGuid: bf967a1e-0de6-11d0-a285-00aa003049e2
9. systemOnly: TRUE
10. searchFlags: 0
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute requiredCategories

This attribute specifies a list of component category IDs that an object (such as an application) requires to run.

1. cn: Required-Categories
2. ldapDisplayName: requiredCategories
3. attributeId: 1.2.840.113556.1.4.321
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 7d6c0e93-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 16
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute retiredReplDSASignatures

This attribute specifies the past DS replication identities of a given DC. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: Retired-Repl-DSA-Signatures
2. ldapDisplayName: retiredReplDSASignatures
3. attributeId: 1.2.840.113556.1.4.673
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 7bfdcb7f-4807-11d1-a9c3-0000f80367c1
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute revision

This attribute specifies the revision level for a security descriptor or other change. Only used in the sam-server and ds-ui-settings objects. For more information, refer to [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf).

1. cn: Revision
2. ldapDisplayName: revision
3. attributeId: 1.2.840.113556.1.4.145
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a21-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rid

This attribute specifies the relative identifier (RID) of an object.

1. cn: Rid
2. ldapDisplayName: rid
3. attributeId: 1.2.840.113556.1.4.153
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a22-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDAllocationPool

This attribute specifies a pool that was prefetched for use by the RID manager when the [RID-Previous-Allocation-Pool](#Section_2c71eb49d58c46398f65540a354319b2) has been used up.

1. cn: RID-Allocation-Pool
2. ldapDisplayName: rIDAllocationPool
3. attributeId: 1.2.840.113556.1.4.371
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 66171889-8f3c-11d0-afda-00c04fd930c9
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDAvailablePool

This attribute specifies the space from which RID pools are allocated.

1. cn: RID-Available-Pool
2. ldapDisplayName: rIDAvailablePool
3. attributeId: 1.2.840.113556.1.4.370
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 66171888-8f3c-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDManagerReference

This attribute specifies the distinguished name for the RID manager of an object.

1. cn: RID-Manager-Reference
2. ldapDisplayName: rIDManagerReference
3. attributeId: 1.2.840.113556.1.4.368
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 66171886-8f3c-11d0-afda-00c04fd930c9
9. systemOnly: TRUE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDNextRID

This attribute specifies the next free relative identifier in the current pool.

1. cn: RID-Next-RID
2. ldapDisplayName: rIDNextRID
3. attributeId: 1.2.840.113556.1.4.374
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 6617188c-8f3c-11d0-afda-00c04fd930c9
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDPreviousAllocationPool

The RID-Previous-Allocation-Pool attribute contains the pool of RIDs that a domain controller allocates from. This attribute is an 8-byte value that contains a pair of 4-byte integers that represent the start and end values of the RID pool. The start value is in the lower 4 bytes, and the end value is in the upper 4 bytes.

1. cn: RID-Previous-Allocation-Pool
2. ldapDisplayName: rIDPreviousAllocationPool
3. attributeId: 1.2.840.113556.1.4.372
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 6617188a-8f3c-11d0-afda-00c04fd930c9
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDSetReferences

This attribute specifies the list of references to RID-Set objects managing RID allocation.

1. cn: RID-Set-References
2. ldapDisplayName: rIDSetReferences
3. attributeId: 1.2.840.113556.1.4.669
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 7bfdcb7b-4807-11d1-a9c3-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: fPRESERVEONDELETE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rIDUsedPool

This attribute specifies the RID pools that have been used by a DC.

1. cn: RID-Used-Pool
2. ldapDisplayName: rIDUsedPool
3. attributeId: 1.2.840.113556.1.4.373
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 6617188b-8f3c-11d0-afda-00c04fd930c9
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rightsGuid

This attribute specifies the GUID used to represent an extended right within an access control entry (ACE).

1. cn: Rights-Guid
2. ldapDisplayName: rightsGuid
3. attributeId: 1.2.840.113556.1.4.340
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 8297931c-86d3-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 36
11. rangeUpper: 36
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute roleOccupant

The distinguished name of an object that fulfills an organizational role.

1. cn: Role-Occupant
2. ldapDisplayName: roleOccupant
3. attributeId: 2.5.4.33
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: a8df7465-c5ea-11d1-bbcb-0080c76670c0
9. systemOnly: FALSE
10. searchFlags: 0
11. mapiID: 33061
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute roomNumber

This attribute specifies the room number of an object.

1. cn: roomNumber
2. ldapDisplayName: roomNumber
3. attributeId: 0.9.2342.19200300.100.1.6
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 81d7f8c2-e327-4a0d-91c6-b42d4009115f
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rootTrust

This attribute specifies the distinguished name of another Cross-Ref.

1. cn: Root-Trust
2. ldapDisplayName: rootTrust
3. attributeId: 1.2.840.113556.1.4.674
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 7bfdcb80-4807-11d1-a9c3-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute rpcNsAnnotation

This attribute specifies a string describing a given RPC profile element.

1. cn: rpc-Ns-Annotation
2. ldapDisplayName: rpcNsAnnotation
3. attributeId: 1.2.840.113556.1.4.366
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 88611bde-8cf4-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsBindings

This attribute specifies the list of RPC bindings for the current interface.

1. cn: rpc-Ns-Bindings
2. ldapDisplayName: rpcNsBindings
3. attributeId: 1.2.840.113556.1.4.113
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a23-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsCodeset

This attribute specifies the list of character sets supported by a server.

1. cn: rpc-Ns-Codeset
2. ldapDisplayName: rpcNsCodeset
3. attributeId: 1.2.840.113556.1.4.367
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 7a0ba0e0-8e98-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsEntryFlags

This attribute specifies a flag to indicate that the RPC NS entry was explicitly created.

1. cn: rpc-Ns-Entry-Flags
2. ldapDisplayName: rpcNsEntryFlags
3. attributeId: 1.2.840.113556.1.4.754
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 80212841-4bdc-11d1-a9c4-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsGroup

This attribute specifies a reference to an RPC server entry or another RPC group.

1. cn: rpc-Ns-Group
2. ldapDisplayName: rpcNsGroup
3. attributeId: 1.2.840.113556.1.4.114
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a24-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsInterfaceID

This attribute specifies an interface ID that is supported by a given server.

1. cn: rpc-Ns-Interface-ID
2. ldapDisplayName: rpcNsInterfaceID
3. attributeId: 1.2.840.113556.1.4.115
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a25-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsObjectID

This attribute specifies the object IDs exported by a given server.

1. cn: rpc-Ns-Object-ID
2. ldapDisplayName: rpcNsObjectID
3. attributeId: 1.2.840.113556.1.4.312
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 29401c48-7a27-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsPriority

This attribute specifies the priority of a given RPC profile entry.

1. cn: rpc-Ns-Priority
2. ldapDisplayName: rpcNsPriority
3. attributeId: 1.2.840.113556.1.4.117
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a27-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsProfileEntry

This attribute specifies the list of entries for the current priority.

1. cn: rpc-Ns-Profile-Entry
2. ldapDisplayName: rpcNsProfileEntry
3. attributeId: 1.2.840.113556.1.4.118
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a28-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute rpcNsTransferSyntax

This attribute specifies the UUID of the transfer syntax supported by the current entry.

1. cn: rpc-Ns-Transfer-Syntax
2. ldapDisplayName: rpcNsTransferSyntax
3. attributeId: 1.2.840.113556.1.4.314
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 29401c4a-7a27-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute sAMAccountName

This attribute specifies the logon name used to support clients and servers running LAN manager and older versions of the operating system, such as Windows NT 4.0 operating system, Windows 95 operating system, and Microsoft Windows 98 operating system. This attribute must be less than 20 characters to support older clients.

1. cn: SAM-Account-Name
2. ldapDisplayName: sAMAccountName
3. attributeId: 1.2.840.113556.1.4.221
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 3e0abfd0-126a-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: fPRESERVEONDELETE| fANR | fATTINDEX
10. rangeLower: 0
11. rangeUpper: 256
12. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
13. isMemberOfPartialAttributeSet: TRUE
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
15. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
16. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute sAMAccountType

This attribute specifies the account type of the security principal objects in Active Directory.

The possible values for this attribute are defined in the following table.

| Name | Value |
| --- | --- |
| SAM\_DOMAIN\_OBJECT | 0x0 |
| SAM\_GROUP\_OBJECT | 0x10000000 |
| SAM\_NON\_SECURITY\_GROUP\_OBJECT | 0x10000001 |
| SAM\_ALIAS\_OBJECT | 0x20000000 |
| SAM\_NON\_SECURITY\_ALIAS\_OBJECT | 0x20000001 |
| SAM\_USER\_OBJECT | 0x30000000 |
| SAM\_MACHINE\_ACCOUNT | 0x30000001 |
| SAM\_TRUST\_ACCOUNT | 0x30000002 |
| SAM\_APP\_BASIC\_GROUP | 0x40000000 |
| SAM\_APP\_QUERY\_GROUP | 0x40000001 |
| SAM\_ACCOUNT\_TYPE\_MAX | 0x7fffffff |

1. cn: SAM-Account-Type
2. ldapDisplayName: sAMAccountType
3. attributeId: 1.2.840.113556.1.4.302
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 6e7b626c-64f2-11d0-afd2-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute samDomainUpdates

Contains a bitmask of performed SAM operations on Active Directory.

1. cn: SAM-Domain-Updates
2. ldapDisplayName: samDomainUpdates
3. attributeId: 1.2.840.113556.1.4.1969
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 04d2d114-f799-4e9b-bcdc-90e8f5ba7ebe
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 1024
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute schedule

This attribute specifies a schedule binary large object (BLOB) as defined by the NT Job Service. It is used by replication. Refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) for more information about this structure.

1. cn: Schedule
2. ldapDisplayName: schedule
3. attributeId: 1.2.840.113556.1.4.211
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: dd712224-10e4-11d0-a05f-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute schemaFlagsEx

This attribute specifies an integer value that contains flags that define additional properties of the attribute, as shown below. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information. This is an optional attribute.

The schemaFlagsEx attribute contains bitwise flags. The following value is relevant to schema objects:

* FLAG\_ATTR\_IS\_CRITICAL: Specifies that the attribute is not a member of the filtered attribute set even if the fRODCFilteredAttribute ([MS-ADTS] section 3.1.1.2.3.5) is set.

This attribute is defined as follows:

1. cn: Schema-Flags-Ex
2. ldapDisplayName: schemaFlagsEx
3. attributeId: 1.2.840.113556.1.4.120
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a2b-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The schemaFlagsEx attribute was added to this attribute definition in Windows Server 2008.

The FLAG\_ATTR\_IS\_CRITICAL value was implemented in Windows Server 2008.

## Attribute schemaIDGUID

This attribute specifies a unique GUID that identifies this attribute, and is used in security descriptors. It is required on an attributeSchema object. If omitted during Add, the server will auto-generate a random GUID. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.2.3 for more information.

1. cn: Schema-ID-GUID
2. ldapDisplayName: schemaIDGUID
3. attributeId: 1.2.840.113556.1.4.148
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967923-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. rangeLower: 16
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute schemaInfo

This attribute specifies an internal binary value used to detect schema changes between DCs, and force a schema NC replication cycle before replicating any other NC. It is used to resolve ties when the schema FSMO is seized and a change is made on more than one DC.

1. cn: Schema-Info
2. ldapDisplayName: schemaInfo
3. attributeId: 1.2.840.113556.1.4.1358
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: f9fb64ae-93b4-11d2-9945-0000f87a57d4
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute schemaUpdate

This attribute is not necessary for Active Directory to function. The protocol does not define a format beyond that required by the schema.

1. cn: Schema-Update
2. ldapDisplayName: schemaUpdate
3. attributeId: 1.2.840.113556.1.4.481
4. attributeSyntax: 2.5.5.11
5. omSyntax: 24
6. isSingleValued: TRUE
7. schemaIdGuid: 1e2d06b4-ac8f-11d0-afe3-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute schemaVersion

This attribute specifies the version number for the schema.

1. cn: Schema-Version
2. ldapDisplayName: schemaVersion
3. attributeId: 1.2.840.113556.1.2.471
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a2c-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33148
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute scopeFlags

1. cn: Scope-Flags
2. ldapDisplayName: scopeFlags
3. attributeId: 1.2.840.113556.1.4.1354
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 16f3a4c2-7e79-11d2-9921-0000f87a57d4
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute scriptPath

This attribute specifies the path for the user's logon script. The string can be null.

1. cn: Script-Path
2. ldapDisplayName: scriptPath
3. attributeId: 1.2.840.113556.1.4.62
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679a8-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. attributeSecurityGuid: 5f202010-79a5-11d0-9020-00c04fc2d4cf
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute attributeSecurityGuid is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute sDRightsEffective

This attribute specifies a constructed attribute that returns a single DWORD value that can have up to three bits set: OWNER\_SECURITY\_INFORMATION, DACL\_SECURITY\_INFORMATION, and SACL\_SECURITY\_INFORMATION. If a bit is set, then the user has write access to the corresponding part of the security descriptor. Owner means both owner and group.

1. cn: SD-Rights-Effective
2. ldapDisplayName: sDRightsEffective
3. attributeId: 1.2.840.113556.1.4.1304
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: c3dbafa6-33df-11d2-98b2-0000f87a57d4
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
12. FLAG\_DOMAIN\_DISALLOW\_RENAME
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute searchFlags

This attribute specifies whether an attribute is indexed, among other things. It is optional and contains the following bitwise flags (further defined in [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 2.2.9):

* fATTINDEX: \*
* fPDNTATTINDEX: \*
* fANR: Add this attribute to the ambiguous name resolution (ANR) set (if set, then fATTINDEX must be set). See [MS-ADTS] for ANR search.
* fPRESERVEONDELETE: Preserve this attribute on logical deletion. This flag is ignored on link attributes.
* fCOPY: Interpreted by LDAP clients, not by the server. If set, the attribute is copied on object copy.
* fTUPLEINDEX: \*
* fSUBTREEATTINDEX: \*
* fCONFIDENTIAL: This attribute is confidential; special access check is needed. For more information, see [MS-ADTS] section 3.1.1.4.3.
* fNEVERVALUEAUDIT: \*
* fRODCFilteredAttribute: If set, this attribute is in the RODC filtered attribute set.

The searchFlags marked \* have an implementation-dependent interpretation defined by Windows. They may be ignored by other implementations, but must not be used in a conflicting way that would affect the performance of Windows DCs.

1. cn: Search-Flags
2. ldapDisplayName: searchFlags
3. attributeId: 1.2.840.113556.1.2.334
4. attributeSyntax: 2.5.5.9
5. omSyntax: 10
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a2d-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. mapiID: 33069
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute searchGuide

This attribute specifies information about suggested search criteria that may be included in some entries that are expected to be a convenient base-object for the search operation; for example, country/region or organization.

1. cn: Search-Guide
2. ldapDisplayName: searchGuide
3. attributeId: 2.5.4.14
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a2e-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33070
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute secretary

This attribute specifies the distinguished name of the secretary for an account.

1. cn: secretary
2. ldapDisplayName: secretary
3. attributeId: 0.9.2342.19200300.100.1.21
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 01072d9a-98ad-4a53-9744-e83e287278fb
9. systemOnly: FALSE
10. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute securityIdentifier

This attribute specifies a unique value of variable length used to identify a user account, group account, or logon session to which an ACE applies.

1. cn: Security-Identifier
2. ldapDisplayName: securityIdentifier
3. attributeId: 1.2.840.113556.1.4.121
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a2f-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute seeAlso

This attribute specifies a list of distinguished names that are related to an object.

1. cn: See-Also
2. ldapDisplayName: seeAlso
3. attributeId: 2.5.4.34
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: bf967a31-0de6-11d0-a285-00aa003049e2
9. systemOnly: FALSE
10. searchFlags: 0
11. mapiID: 33071
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute seqNotification

This attribute specifies a counter that is incremented daily. This counter value is given to the link tracking service that adds the value to its volumes and link source files when they are refreshed. The domain controller maintains this value.

1. cn: Seq-Notification
2. ldapDisplayName: seqNotification
3. attributeId: 1.2.840.113556.1.4.504
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: ddac0cf2-af8f-11d0-afeb-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serialNumber

This attribute specifies a part of the X.500 specification [[X500]](http://go.microsoft.com/fwlink/?LinkId=90589).

1. cn: Serial-Number
2. ldapDisplayName: serialNumber
3. attributeId: 2.5.4.5
4. attributeSyntax: 2.5.5.5
5. omSyntax: 19
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a32-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. mapiID: 33072
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serverName

This attribute specifies the name of a server.

1. cn: Server-Name
2. ldapDisplayName: serverName
3. attributeId: 1.2.840.113556.1.4.223
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 09dcb7a0-165f-11d0-a064-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 1024
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute serverReference

This attribute specifies a site computer object. It contains the distinguished name of the domain controller in the domain naming context. Refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) and [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information on how Active Directory uses this attribute.

1. cn: Server-Reference
2. ldapDisplayName: serverReference
3. attributeId: 1.2.840.113556.1.4.515
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 26d9736d-6070-11d1-a9c6-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 94
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute serverReferenceBL

This attribute is the back link attribute of serverReference and contains an object found in the domain naming context. The distinguished name of a computer under the sites folder. Refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) and [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information on how Active Directory uses this attribute.

1. cn: Server-Reference-BL
2. ldapDisplayName: serverReferenceBL
3. attributeId: 1.2.840.113556.1.4.516
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 26d9736e-6070-11d1-a9c6-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: 0
11. linkID: 95
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently.

1. isSingleValued: TRUE

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute serverRole

This attribute specifies compatibility with servers that preceded Windows 2000 servers. A computer running Windows NT Server operating system can be a stand-alone server, a primary domain controller (PDC), or a backup domain controller (BDC).

1. cn: Server-Role
2. ldapDisplayName: serverRole
3. attributeId: 1.2.840.113556.1.4.157
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a33-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: b8119fd0-04f6-4762-ab7a-4986c76b3f9a
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute attributeSecurityGuid is not defined.

## Attribute serverState

This attribute specifies whether the server is enabled or disabled. A value of 1 indicates that the server is enabled. A value of 2 indicates that the server is disabled. All other values are invalid.

1. cn: Server-State
2. ldapDisplayName: serverState
3. attributeId: 1.2.840.113556.1.4.154
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a34-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: b8119fd0-04f6-4762-ab7a-4986c76b3f9a
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute attributeSecurityGuid is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute serviceBindingInformation

This attribute specifies service-specific binding information in string format.

1. cn: Service-Binding-Information
2. ldapDisplayName: serviceBindingInformation
3. attributeId: 1.2.840.113556.1.4.510
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: b7b1311c-b82e-11d0-afee-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serviceClassID

This attribute specifies the GUID for the Service Class.

1. cn: Service-Class-ID
2. ldapDisplayName: serviceClassID
3. attributeId: 1.2.840.113556.1.4.122
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a35-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serviceClassInfo

This attribute specifies general Service Class information.

1. cn: Service-Class-Info
2. ldapDisplayName: serviceClassInfo
3. attributeId: 1.2.840.113556.1.4.123
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a36-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serviceClassName

This attribute specifies the string name of the service that an administration point represents.

1. cn: Service-Class-Name
2. ldapDisplayName: serviceClassName
3. attributeId: 1.2.840.113556.1.4.509
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: b7b1311d-b82e-11d0-afee-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serviceDNSName

This attribute specifies the fully qualified domain name (FQDN) (1) ([[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 1.1) to look up to find a server running this service.

1. cn: Service-DNS-Name
2. ldapDisplayName: serviceDNSName
3. attributeId: 1.2.840.113556.1.4.657
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 28630eb8-41d5-11d1-a9c1-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serviceDNSNameType

This attribute specifies the type of DNS record to look up for this service. For example, A or SRV.

1. cn: Service-DNS-Name-Type
2. ldapDisplayName: serviceDNSNameType
3. attributeId: 1.2.840.113556.1.4.659
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 28630eba-41d5-11d1-a9c1-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 256
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute serviceInstanceVersion

This attribute specifies the version of a Winsock service.

1. cn: Service-Instance-Version
2. ldapDisplayName: serviceInstanceVersion
3. attributeId: 1.2.840.113556.1.4.199
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a37-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 8
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute servicePrincipalName

This attribute specifies the principal names used for mutual authentication with an instance of a service on this machine. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 2.2.2.

1. cn: Service-Principal-Name
2. ldapDisplayName: servicePrincipalName
3. attributeId: 1.2.840.113556.1.4.771
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: f3a64788-5306-11d1-a9c5-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute setupCommand

This attribute specifies whether or not a setup command is required to set up this application.

1. cn: Setup-Command
2. ldapDisplayName: setupCommand
3. attributeId: 1.2.840.113556.1.4.325
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 7d6c0e97-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowExpire

This attribute specifies an absolute date to expire an account.

1. cn: ShadowExpire
2. ldapDisplayName: shadowExpire
3. attributeId: 1.3.6.1.1.1.1.10
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 75159a00-1fff-4cf4-8bff-4ef2695cf643
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowFlag

This attribute specifies a part of the shadow map used to store the flag value.

1. cn: ShadowFlag
2. ldapDisplayName: shadowFlag
3. attributeId: 1.3.6.1.1.1.1.11
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 8dfeb70d-c5db-46b6-b15e-a4389e6cee9b
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowInactive

This attribute specifies the number of days before password expiry to warn the user.

1. cn: ShadowInactive
2. ldapDisplayName: shadowInactive
3. attributeId: 1.3.6.1.1.1.1.9
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 86871d1f-3310-4312-8efd-af49dcfb2671
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowLastChange

This attribute specifies the last change of shadow information.

1. cn: ShadowLastChange
2. ldapDisplayName: shadowLastChange
3. attributeId: 1.3.6.1.1.1.1.5
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: f8f2689c-29e8-4843-8177-e8b98e15eeac
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowMax

This attribute specifies the maximum number of days that a password is valid.

1. cn: ShadowMax
2. ldapDisplayName: shadowMax
3. attributeId: 1.3.6.1.1.1.1.7
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: f285c952-50dd-449e-9160-3b880d99988d
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowMin

This attribute specifies the minimum number of days between shadow changes.

1. cn: ShadowMin
2. ldapDisplayName: shadowMin
3. attributeId: 1.3.6.1.1.1.1.6
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: a76b8737-e5a1-4568-b057-dc12e04be4b2
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shadowWarning

This attribute specifies the number of days before password expiry to warn the user.

1. cn: ShadowWarning
2. ldapDisplayName: shadowWarning
3. attributeId: 1.3.6.1.1.1.1.8
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 7ae89c9c-2976-4a46-bb8a-340f88560117
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shellContextMenu

This attribute specifies the order number and GUID of the context menu for this object.

1. cn: Shell-Context-Menu
2. ldapDisplayName: shellContextMenu
3. attributeId: 1.2.840.113556.1.4.615
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 553fd039-f32e-11d0-b0bc-00c04fd8dca6
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shellPropertyPages

This attribute specifies the order number and GUID of property pages for managing Active Directory objects. These property pages can be accessed from the Windows shell. For more information, see the document "Extending the User Interface for Directory Objects" [[MSDN-ExtUserIntDirObj]](http://go.microsoft.com/fwlink/?LinkId=107095).

1. cn: Shell-Property-Pages
2. ldapDisplayName: shellPropertyPages
3. attributeId: 1.2.840.113556.1.4.563
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 52458039-ca6a-11d0-afff-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute shortServerName

This attribute specifies a compatible server name for print servers that preceded Windows 2000.

1. cn: Short-Server-Name
2. ldapDisplayName: shortServerName
3. attributeId: 1.2.840.113556.1.4.1209
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 45b01501-c419-11d1-bbc9-0080c76670c0
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute showInAddressBook

This attribute specifies in which MAPI address books an object will appear. It is usually maintained by the Exchange Recipient Update Service.

1. cn: Show-In-Address-Book
2. ldapDisplayName: showInAddressBook
3. attributeId: 1.2.840.113556.1.4.644
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 3e74f60e-3e73-11d1-a9c0-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: fCOPY
11. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute showInAdvancedViewOnly

This attribute specifies whether the attribute is to be visible in the Advanced mode of user interfaces (UIs). Active Directory snap-ins read this attribute.

1. cn: Show-In-Advanced-View-Only
2. ldapDisplayName: showInAdvancedViewOnly
3. attributeId: 1.2.840.113556.1.2.169
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: bf967984-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY| fATTINDEX
10. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute sIDHistory

This attribute specifies previous SIDs used for the object if the object was moved from another domain. Whenever an object is moved from one domain to another, a new SID is created and that new SID becomes the objectSID. The previous SID is added to the sIDHistory property. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 4.1.2.

1. cn: SID-History
2. ldapDisplayName: sIDHistory
3. attributeId: 1.2.840.113556.1.4.609
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 17eb4278-d167-11d0-b002-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently.

1. systemOnly: TRUE

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute signatureAlgorithms

This attribute specifies the type of algorithm that must be used to decode a digital signature during the authentication process.

1. cn: Signature-Algorithms
2. ldapDisplayName: signatureAlgorithms
3. attributeId: 1.2.840.113556.1.4.824
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 2a39c5b2-8960-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute siteGUID

This attribute specifies the unique identifier for a site.

1. cn: Site-GUID
2. ldapDisplayName: siteGUID
3. attributeId: 1.2.840.113556.1.4.362
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 3e978924-8c01-11d0-afda-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 16
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute siteLinkList

This attribute specifies the list of site links that are associated with this bridge.

1. cn: Site-Link-List
2. ldapDisplayName: siteLinkList
3. attributeId: 1.2.840.113556.1.4.822
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: d50c2cdd-8951-11d1-aebc-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 142
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute siteList

This attribute specifies the list of sites connected to this link object.

1. cn: Site-List
2. ldapDisplayName: siteList
3. attributeId: 1.2.840.113556.1.4.821
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: d50c2cdc-8951-11d1-aebc-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 144
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute siteObject

This attribute specifies the distinguished name for the site to which this subnet belongs.

1. cn: Site-Object
2. ldapDisplayName: siteObject
3. attributeId: 1.2.840.113556.1.4.512
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 3e10944c-c354-11d0-aff8-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 46
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute siteObjectBL

This attribute is the back link attribute of siteObject and contains the list of subnet objects that belong to a site.

1. cn: Site-Object-BL
2. ldapDisplayName: siteObjectBL
3. attributeId: 1.2.840.113556.1.4.513
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 3e10944d-c354-11d0-aff8-0000f80367c1
9. systemOnly: TRUE
10. searchFlags: 0
11. linkID: 47
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_NOT\_REPLICATED

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute siteServer

This attribute specifies the licensing master server for a given site.

1. cn: Site-Server
2. ldapDisplayName: siteServer
3. attributeId: 1.2.840.113556.1.4.494
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 1be8f17c-a9ff-11d0-afe2-00c04fd930c9
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute sn

This attribute specifies the family or last name for a user.

1. cn: Surname
2. ldapDisplayName: sn
3. attributeId: 2.5.4.4
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a41-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fANR | fATTINDEX
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 14865
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
16. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute sPNMappings

This multivalued attribute contains a list of service principal names (SPNs) to show the equivalence of SPN types. The SPN is the name a client uses to uniquely identify an instance of a service. If an implementer installs multiple instances of a service on computers throughout a forest, each instance must have its own SPN. A given service instance can have multiple SPNs if there are multiple names that clients might use for authentication. For example, "ldap/..." SPNs could be mapped so that they are equivalent to "host/..." SPNs. For more information on Active Directory usage, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf) section 4.1.4.2.19.

1. cn: SPN-Mappings
2. ldapDisplayName: sPNMappings
3. attributeId: 1.2.840.113556.1.4.1347
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 2ab0e76c-7041-11d2-9905-0000f87a57d4
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute st

This attribute specifies the name of a user's state or province.

1. cn: State-Or-Province-Name
2. ldapDisplayName: st
3. attributeId: 2.5.4.8
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a39-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 1
11. rangeUpper: 128
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14888
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute street

This attribute specifies the street address.

1. cn: Street-Address
2. ldapDisplayName: street
3. attributeId: 2.5.4.9
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a3a-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 1
11. rangeUpper: 1024
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 33082
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
16. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
17. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute streetAddress

This attribute specifies the user's address.

1. cn: Address
2. ldapDisplayName: streetAddress
3. attributeId: 1.2.840.113556.1.2.256
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: f0f8ff84-1191-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 1024
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14889
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
15. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute structuralObjectClass

This attribute specifies a constructed attribute that stores a list of classes contained in a class hierarchy, including abstract classes. This list does contain dynamically linked auxiliary classes.

1. cn: Structural-Object-Class
2. ldapDisplayName: structuralObjectClass
3. attributeId: 2.5.21.9
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: 3860949f-f6a8-4b38-9950-81ecb6bc2982
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute subClassOf

This attribute specifies the parent class of a class.

1. cn: Sub-Class-Of
2. ldapDisplayName: subClassOf
3. attributeId: 1.2.840.113556.1.2.21
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a3b-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute subRefs

This attribute specifies a list of subordinate references of a naming context. For more information on subRefs, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf).

1. cn: Sub-Refs
2. ldapDisplayName: subRefs
3. attributeId: 1.2.840.113556.1.2.7
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: bf967a3c-0de6-11d0-a285-00aa003049e2
9. systemOnly: TRUE
10. searchFlags: 0
11. mapiID: 33083
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
14. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
15. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute subSchemaSubEntry

This attribute specifies the distinguished name for the location of the subschema object where a class or attribute is defined.

1. cn: SubSchemaSubEntry
2. ldapDisplayName: subSchemaSubEntry
3. attributeId: 2.5.18.10
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 9a7ad94d-ca53-11d1-bbd0-0080c76670c0
9. systemOnly: TRUE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
12. FLAG\_DOMAIN\_DISALLOW\_RENAME
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute superiorDNSRoot

This attribute specifies a system attribute that is used for referrals generation.

1. cn: Superior-DNS-Root
2. ldapDisplayName: superiorDNSRoot
3. attributeId: 1.2.840.113556.1.4.532
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 5245801d-ca6a-11d0-afff-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute superScopeDescription

This attribute specifies a description for a superscope.

1. cn: Super-Scope-Description
2. ldapDisplayName: superScopeDescription
3. attributeId: 1.2.840.113556.1.4.711
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 963d274c-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute superScopes

This attribute groups together all the different scopes used in the DHCP class into a single entity.

1. cn: Super-Scopes
2. ldapDisplayName: superScopes
3. attributeId: 1.2.840.113556.1.4.710
4. attributeSyntax: 2.5.5.5
5. omSyntax: 19
6. isSingleValued: FALSE
7. schemaIdGuid: 963d274b-48be-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute supplementalCredentials

This attribute specifies stored credentials for use in authenticating; the encrypted version of the user's password. This attribute is neither readable nor writable.

For more information about usage, refer to [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) section 2.2.10.

1. cn: Supplemental-Credentials
2. ldapDisplayName: supplementalCredentials
3. attributeId: 1.2.840.113556.1.4.125
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a3f-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute supportedApplicationContext

This attribute specifies the object identifier(s) of application context(s) that an OSI application supports.

1. cn: Supported-Application-Context
2. ldapDisplayName: supportedApplicationContext
3. attributeId: 2.5.4.30
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 1677588f-47f3-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33085

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute syncAttributes

This attribute specifies information on the sync objects.

1. cn: Sync-Attributes
2. ldapDisplayName: syncAttributes
3. attributeId: 1.2.840.113556.1.4.666
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 037651e4-441d-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute syncMembership

This attribute specifies a list of members contained in a SAM built-in group for synchronization.

1. cn: Sync-Membership
2. ldapDisplayName: syncMembership
3. attributeId: 1.2.840.113556.1.4.665
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 037651e3-441d-11d1-a9c3-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. linkID: 78
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute syncWithObject

This attribute specifies the distinguished name of the object being synchronized for the SAM built-in group/local policy synchronization.

1. cn: Sync-With-Object
2. ldapDisplayName: syncWithObject
3. attributeId: 1.2.840.113556.1.4.664
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 037651e2-441d-11d1-a9c3-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute syncWithSID

This attribute specifies the SAM built-in group object/local policy synchronization; this is the local group to which an object corresponds.

1. cn: Sync-With-SID
2. ldapDisplayName: syncWithSID
3. attributeId: 1.2.840.113556.1.4.667
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 037651e5-441d-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute systemAuxiliaryClass

This attribute specifies the governsIds of some of the Auxiliary classes that are linked to this class. These classes contain attributes that are required for system operation. This attribute is optional. It can be modified only by the Active Directory system [[MS-ADOD]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADOD%5d.pdf). See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.3.1.1.5 for more information.

1. cn: System-Auxiliary-Class
2. ldapDisplayName: systemAuxiliaryClass
3. attributeId: 1.2.840.113556.1.4.198
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a43-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute systemFlags

This attribute specifies an integer value that contains flags that define additional properties of the class. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information. This attribute is optional.

The systemFlags attribute contains bitwise flags. The values relevant to the schema objects are the following (further defined in [MS-ADTS] section 2.2.10):

* FLAG\_ATTR\_NOT\_REPLICATED: This attribute is non-replicated.
* FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER: If set, this attribute is a member of partial attribute set (PAS) regardless of the value of attribute isMemberofPartialAttributeSet.
* FLAG\_ATTR\_IS\_CONSTRUCTED: This attribute is a constructed attribute.
* FLAG\_ATTR\_IS\_OPERATIONAL: This attribute is an operational attribute, as defined in [[RFC2251]](http://go.microsoft.com/fwlink/?LinkId=90325) section 3.2.1.
* FLAG\_SCHEMA\_BASE\_OBJECT: This attribute is a Category 1 schema attribute.
* FLAG\_ATTR\_IS\_RDN: This attribute can be used as an RDN attribute of a class.

This attribute is defined as follows:

1. cn: System-Flags
2. ldapDisplayName: systemFlags
3. attributeId: 1.2.840.113556.1.4.375
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: e0fa1e62-9b45-11d0-afdd-00c04fd930c9
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE
10. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute systemMayContain

This attribute specifies the list of optional attributes for a class. The list of attributes can only be modified by the Active Directory system [[MS-ADOD]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADOD%5d.pdf).

1. cn: System-May-Contain
2. ldapDisplayName: systemMayContain
3. attributeId: 1.2.840.113556.1.4.196
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a44-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute systemMustContain

This attribute specifies the attributeIds of some of the mandatory attributes of this class. It contains attributes required for system operation. This attribute is optional and can be modified only by the Active Directory system [[MS-ADOD]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADOD%5d.pdf).

1. cn: System-Must-Contain
2. ldapDisplayName: systemMustContain
3. attributeId: 1.2.840.113556.1.4.197
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a45-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute systemOnly

This attribute specifies a Boolean value that specifies whether only Active Directory can modify the class. System-Only classes can be created or deleted only by the directory system agent.

1. cn: System-Only
2. ldapDisplayName: systemOnly
3. attributeId: 1.2.840.113556.1.4.170
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a46-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute systemPossSuperiors

This attribute specifies the governsIds of some of the classes that can be parents of this class within an NC tree. It describes relationships that are required for system operation. This attribute is optional and can be modified only by the Active Directory system [[MS-ADOD]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADOD%5d.pdf). See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) for more information.

1. cn: System-Poss-Superiors
2. ldapDisplayName: systemPossSuperiors
3. attributeId: 1.2.840.113556.1.4.195
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a47-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
12. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute telephoneNumber

This attribute specifies the primary telephone number.

1. cn: Telephone-Number
2. ldapDisplayName: telephoneNumber
3. attributeId: 2.5.4.20
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a49-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 64
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14856
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute teletexTerminalIdentifier

This attribute specifies the Teletex terminal identifier (and optionally, parameters) for a teletex terminal associated with an object.

1. cn: Teletex-Terminal-Identifier
2. ldapDisplayName: teletexTerminalIdentifier
3. attributeId: 2.5.4.22
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a4a-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
11. mapiID: 33091
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute telexNumber

This attribute specifies a list of alternate telex numbers.

1. cn: Telex-Number
2. ldapDisplayName: telexNumber
3. attributeId: 2.5.4.21
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a4b-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 32
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14892
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute templateRoots

This attribute specifies an attribute used on the Exchange Server configuration container to indicate where the template containers are stored. This information is used by the Active Directory MAPI provider.

1. cn: Template-Roots
2. ldapDisplayName: templateRoots
3. attributeId: 1.2.840.113556.1.4.1346
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: ed9de9a0-7041-11d2-9905-0000f87a57d4
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute templateRoots2

This attribute specifies an attribute used on the Exchange Server configuration container to indicate where the template containers are stored. This information is used by the Active Directory MAPI provider. Similar to [templateRoots](#Section_56d3f55d41d2452cb7d43d2bfa452955), it differs by being a linked attribute.

1. cn: Template-Roots2
2. ldapDisplayName: templateRoots2
3. attributeId: 1.2.840.113556.1.4.2048
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. linkId: 2126
9. schemaIdGuid: b1cba91a-0682-4362-a659-153e201ef069
10. systemOnly: FALSE
11. searchFlags: 0
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute terminalServer

This attribute specifies opaque data used by Windows NT Terminal Server.

1. cn: Terminal-Server
2. ldapDisplayName: terminalServer
3. attributeId: 1.2.840.113556.1.4.885
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 6db69a1c-9422-11d1-aebd-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeUpper: 20480
11. attributeSecurityGuid: 5805bc62-bdc9-4428-a5e2-856a0f4c185e
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeUpper is not defined.

## Attribute textEncodedORAddress

This attribute is used to support X.400 [[X400]](http://go.microsoft.com/fwlink/?LinkId=107135) addresses in a text format.

1. cn: Text-Encoded-OR-Address
2. ldapDisplayName: textEncodedORAddress
3. attributeId: 0.9.2342.19200300.100.1.2
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: a8df7489-c5ea-11d1-bbcb-0080c76670c0
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 1024
12. mapiID: 35969

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute thumbnailLogo

This attribute specifies a BLOB containing a logo for this object.

1. cn: Logo
2. ldapDisplayName: thumbnailLogo
3. attributeId: 2.16.840.1.113730.3.1.36
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679a9-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 32767
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute thumbnailPhoto

This attribute specifies a picture.

1. cn: Picture
2. ldapDisplayName: thumbnailPhoto
3. attributeId: 2.16.840.1.113730.3.1.35
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 8d3bca50-1d7e-11d0-a081-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 102400
12. mapiId: 35998
13. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute timeRefresh

This attribute specifies the interval during which a resource record that is contained in an Active Directory integrated zone should be refreshed for the DNS server. The default interval is seven days.

1. cn: Time-Refresh
2. ldapDisplayName: timeRefresh
3. attributeId: 1.2.840.113556.1.4.503
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: ddac0cf1-af8f-11d0-afeb-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute timeVolChange

This attribute specifies the last time that a file in the remote storage volume was changed.

1. cn: Time-Vol-Change
2. ldapDisplayName: timeVolChange
3. attributeId: 1.2.840.113556.1.4.502
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: ddac0cf0-af8f-11d0-afeb-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute title

This attribute specifies the user's job title. This property is commonly used to indicate the formal job title, such as Senior Programmer, rather than occupational class, such as programmer. It is not typically used for suffix titles such as Esq. or DDS.

1. cn: Title
2. ldapDisplayName: title
3. attributeId: 2.5.4.12
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a55-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 128
12. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
13. mapiID: 14871
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute tokenGroups

This attribute specifies a computed attribute that contains the list of SIDs due to a transitive group membership expansion operation on a given user or computer. Token groups cannot be retrieved if no global catalog is present to retrieve the transitive reverse memberships.

1. cn: Token-Groups
2. ldapDisplayName: tokenGroups
3. attributeId: 1.2.840.113556.1.4.1301
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: b7c69e6d-2cc7-11d2-854e-00a0c983f608
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 037088f8-0ae1-11d2-b422-00a0c968f939
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
12. FLAG\_DOMAIN\_DISALLOW\_RENAME
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute tokenGroupsGlobalAndUniversal

This attribute specifies the token groups for Exchange Server.

1. cn: Token-Groups-Global-And-Universal
2. ldapDisplayName: tokenGroupsGlobalAndUniversal
3. attributeId: 1.2.840.113556.1.4.1418
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 46a9b11d-60ae-405a-b7e8-ff8a58d456d2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 037088f8-0ae1-11d2-b422-00a0c968f939
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
12. FLAG\_DOMAIN\_DISALLOW\_RENAME
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute tokenGroupsNoGCAcceptable

This attribute specifies the list of SIDs due to a transitive group membership expansion operation on a given user or computer. Token groups cannot be retrieved if a global catalog is not present to retrieve the transitive reverse memberships.

1. cn: Token-Groups-No-GC-Acceptable
2. ldapDisplayName: tokenGroupsNoGCAcceptable
3. attributeId: 1.2.840.113556.1.4.1303
4. attributeSyntax: 2.5.5.17
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 040fc392-33df-11d2-98b2-0000f87a57d4
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 037088f8-0ae1-11d2-b422-00a0c968f939
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT | FLAG\_ATTR\_IS\_CONSTRUCTED |
12. FLAG\_DOMAIN\_DISALLOW\_RENAME
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute tombstoneLifetime

If the Recycle Bin optional feature is not enabled, this attribute specifies the number of days before a deleted object is removed from the directory services. If the Recycle Bin optional feature is enabled, this attribute specifies the number of days before a recycled object is removed from the directory services. For more information, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.1.15 and [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: Tombstone-Lifetime
2. ldapDisplayName: tombstoneLifetime
3. attributeId: 1.2.840.113556.1.2.54
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 16c3a860-1273-11d0-a060-00aa006c33ed
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33093
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute transportAddressAttribute

This attribute specifies the name of the address type for the transport.

1. cn: Transport-Address-Attribute
2. ldapDisplayName: transportAddressAttribute
3. attributeId: 1.2.840.113556.1.4.895
4. attributeSyntax: 2.5.5.2
5. omSyntax: 6
6. isSingleValued: TRUE
7. schemaIdGuid: c1dc867c-a261-11d1-b606-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute transportDLLName

This attribute specifies the name of the DLL that will manage a transport.

1. cn: Transport-DLL-Name
2. ldapDisplayName: transportDLLName
3. attributeId: 1.2.840.113556.1.4.789
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 26d97372-6070-11d1-a9c6-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 1024
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute transportType

This attribute specifies the distinguished name for a type of transport being used to connect sites together. This value can point to an IP or Simple Mail Transfer Protocol (SMTP) transport.

1. cn: Transport-Type
2. ldapDisplayName: transportType
3. attributeId: 1.2.840.113556.1.4.791
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: 26d97374-6070-11d1-a9c6-0000f80367c1
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute treatAsLeaf

This attribute defines a flag for display specifiers (see the displaySpecifier class in [[MS-ADSC]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADSC%5d.pdf)). Display specifiers that have this attribute set to True force the related class to be displayed as a leaf class even if it has children.

1. cn: Treat-As-Leaf
2. ldapDisplayName: treatAsLeaf
3. attributeId: 1.2.840.113556.1.4.806
4. attributeSyntax: 2.5.5.8
5. omSyntax: 1
6. isSingleValued: TRUE
7. schemaIdGuid: 8fd044e3-771f-11d1-aeae-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute treeName

This attribute specifies the fully qualified domain name (FQDN) (2) ([[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 1.1) of the domain at the root of a tree.

1. cn: Tree-Name
2. ldapDisplayName: treeName
3. attributeId: 1.2.840.113556.1.4.660
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 28630ebd-41d5-11d1-a9c1-0000f80367c1
8. systemOnly: TRUE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute trustAttributes

This attribute specifies the trust attributes for a trusted domain. Possible attribute values are as follows: TRUST\_ATTRIBUTE\_NON\_TRANSITIVE Disable transitivity. TRUST\_ATTRIBUTE\_TREE\_PARENT Trust is set to the organization tree parent. TRUST\_ATTRIBUTE\_TREE\_ROOT Trust set to another tree root in the forest. TRUST\_ATTRIBUTE\_UPLEVEL\_ONLY Trusted link valid only for up-level client. For more information, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.6.7.9.

1. cn: Trust-Attributes
2. ldapDisplayName: trustAttributes
3. attributeId: 1.2.840.113556.1.4.470
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 80a67e5a-9f22-11d0-afdd-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustAuthIncoming

This attribute specifies authentication information for the incoming portion of a trust. For more information, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) sections 6.1.6.7.10 and 6.1.6.9.1.

1. cn: Trust-Auth-Incoming
2. ldapDisplayName: trustAuthIncoming
3. attributeId: 1.2.840.113556.1.4.129
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a59-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 32767
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustAuthOutgoing

This attribute specifies authentication information for the outgoing portion of a trust. For more information, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) sections 6.1.6.7.11 and 6.1.6.9.1.

1. cn: Trust-Auth-Outgoing
2. ldapDisplayName: trustAuthOutgoing
3. attributeId: 1.2.840.113556.1.4.135
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a5f-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 32767
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
13. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustDirection

This attribute specifies the direction of a trust. For more information refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.6.7.12.

1. cn: Trust-Direction
2. ldapDisplayName: trustDirection
3. attributeId: 1.2.840.113556.1.4.132
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a5c-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustParent

This attribute specifies the distinguished name of a related Cross-Ref. See [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.1.2.1.1.4.

1. cn: Trust-Parent
2. ldapDisplayName: trustParent
3. attributeId: 1.2.840.113556.1.4.471
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: TRUE
8. schemaIdGuid: b000ea7a-a086-11d0-afdd-00c04fd930c9
9. systemOnly: FALSE
10. searchFlags: 0
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustPartner

This attribute specifies the name of the domain with which a trust exists. For more information refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.6.7.13.

1. cn: Trust-Partner
2. ldapDisplayName: trustPartner
3. attributeId: 1.2.840.113556.1.4.133
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a5d-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 1
11. rangeUpper: 1024
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustPosixOffset

This attribute specifies the Portable Operating System Interface (POSIX) offset for the trusted domain.

1. cn: Trust-Posix-Offset
2. ldapDisplayName: trustPosixOffset
3. attributeId: 1.2.840.113556.1.4.134
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a5e-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute trustType

This attribute specifies the type of trust, for example, NT or MIT.

1. cn: Trust-Type
2. ldapDisplayName: trustType
3. attributeId: 1.2.840.113556.1.4.136
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a60-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute isMemberOfPartialAttributeSet is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uASCompat

This attribute specifies whether the security account manager will enforce data sizes to make Active Directory compatible with the LAN Manager User Account System (UAS). If this value is 0, no limits are enforced. If this value is 1, the following limits are enforced.

| Value | Length |
| --- | --- |
| Password | 0 to 14 characters |
| Account Name | 0 to 20 characters |
| Domain Name | 0 to 15 characters |
| Computer Name | 0 to 15 characters |
| Comments | 0 to 48 characters |
| Home Directory | 0 to 256 characters |
| Script Path | 0 to 256 characters |
| Time Units Per Week | 168 bits (21 bytes) |

1. cn: UAS-Compat
2. ldapDisplayName: uASCompat
3. attributeId: 1.2.840.113556.1.4.155
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a61-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: b8119fd0-04f6-4762-ab7a-4986c76b3f9a
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute attributeSecurityGuid is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uid

This attribute specifies a user ID.

1. cn: uid
2. ldapDisplayName: uid
3. attributeId: 0.9.2342.19200300.100.1.1
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 0bb0fca0-1e89-429f-901a-1413894d9f59
8. systemOnly: FALSE
9. searchFlags: fPRESERVEONDELETE
10. attributeSecurityGuid: 59ba2f42-79a2-11d0-9020-00c04fc2d3cf

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute uidNumber

This attribute specifies an integer that uniquely identifies a user in an administrative domain, as specified in [[RFC2307]](http://go.microsoft.com/fwlink/?LinkId=90333).

1. cn: UidNumber
2. ldapDisplayName: uidNumber
3. attributeId: 1.3.6.1.1.1.1.0
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 850fcc8f-9c6b-47e1-b671-7c654be4d5b3
8. systemOnly: FALSE
9. searchFlags: fATTINDEX

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute uNCName

This attribute specifies the universal naming convention name for shared volumes and printers.

1. cn: UNC-Name
2. ldapDisplayName: uNCName
3. attributeId: 1.2.840.113556.1.4.137
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a64-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute unicodePwd

This attribute specifies the password of the user in Windows NT one-way format (OWF). Windows 2000 uses the Windows NT OWF. This property is used only by the operating system. Note that the clear password cannot be derived back from the OWF form of the password. For more information, refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 3.1.1.3.1.5.1 and [[MS-SAMR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-SAMR%5d.pdf) section 3.1.1.8.7.

1. cn: Unicode-Pwd
2. ldapDisplayName: unicodePwd
3. attributeId: 1.2.840.113556.1.4.90
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679e1-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uniqueIdentifier

This attribute specifies a "unique identifier" for an object represented in the directory. For more information refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf).

1. cn: uniqueIdentifier
2. ldapDisplayName: uniqueIdentifier
3. attributeId: 0.9.2342.19200300.100.1.44
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: ba0184c7-38c5-4bed-a526-75421470580c
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 256

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute uniqueMember

This attribute specifies the distinguished name for the member of a group (see the groupOfUniqueNames class [[MS-ADSC]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADSC%5d.pdf)).

1. cn: uniqueMember
2. ldapDisplayName: uniqueMember
3. attributeId: 2.5.4.50
4. attributeSyntax: 2.5.5.1
5. omSyntax: 127
6. omObjectClass: 1.3.12.2.1011.28.0.714
7. isSingleValued: FALSE
8. schemaIdGuid: 8f888726-f80a-44d7-b1ee-cb9df21392c8
9. systemOnly: FALSE
10. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute unixHomeDirectory

This attribute specifies the absolute path to the home directory [[RFC2307]](http://go.microsoft.com/fwlink/?LinkId=90333).

1. cn: UnixHomeDirectory
2. ldapDisplayName: unixHomeDirectory
3. attributeId: 1.3.6.1.1.1.1.3
4. attributeSyntax: 2.5.5.5
5. omSyntax: 22
6. isSingleValued: TRUE
7. schemaIdGuid: bc2dba12-000f-464d-bf1d-0808465d8843
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 2048

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute unixUserPassword

This attribute specifies a userPassword compatible with UNIX systems.

1. cn: UnixUserPassword
2. ldapDisplayName: unixUserPassword
3. attributeId: 1.2.840.113556.1.4.1910
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 612cb747-c0e8-4f92-9221-fdd5f15b550d
8. systemOnly: FALSE
9. searchFlags: fCONFIDENTIAL
10. rangeLower: 1
11. rangeUpper: 128

Version-Specific Behavior: Implemented on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute unstructuredAddress

This attribute specifies the IP address of the router. For example, 100.11.22.33. PKCS #9.

1. cn: unstructuredAddress
2. ldapDisplayName: unstructuredAddress
3. attributeId: 1.2.840.113549.1.9.8
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 50950839-cc4c-4491-863a-fcf942d684b7
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 256

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute unstructuredName

This attribute specifies the fully qualified domain name (FQDN) (1) ([[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 1.1) of the router, for example, router1.microsoft.com. PKCS #9.

1. cn: unstructuredName
2. ldapDisplayName: unstructuredName
3. attributeId: 1.2.840.113549.1.9.2
4. attributeSyntax: 2.5.5.5
5. omSyntax: 22
6. isSingleValued: FALSE
7. schemaIdGuid: 9c8ef177-41cf-45c9-9673-7716c0c8901b
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 256

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute upgradeProductCode

This attribute contains the product code of other packages, such as applications, that can be upgraded by this package, or that can upgrade this package.

1. cn: Upgrade-Product-Code
2. ldapDisplayName: upgradeProductCode
3. attributeId: 1.2.840.113556.1.4.813
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: d9e18312-8939-11d1-aebc-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute uPNSuffixes

This attribute specifies the list of User-Principal-Name suffixes for a forest.

1. cn: UPN-Suffixes
2. ldapDisplayName: uPNSuffixes
3. attributeId: 1.2.840.113556.1.4.890
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 032160bf-9824-11d1-aec0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute url

This attribute specifies a list of alternate webpages.

1. cn: WWW-Page-Other
2. ldapDisplayName: url
3. attributeId: 1.2.840.113556.1.4.749
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 9a9a0221-4a5b-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: e45795b3-9455-11d1-aebd-0000f80367c1
11. mapiID: 33141
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute userAccountControl

This attribute specifies flags that control the behavior of the user account.

1. cn: User-Account-Control
2. ldapDisplayName: userAccountControl
3. attributeId: 1.2.840.113556.1.4.8
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a68-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY| fPRESERVEONDELETE | fATTINDEX
10. attributeSecurityGuid: 4c164200-20c0-11d0-a768-00aa006e0529
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute userCert

This attribute specifies Nortel v1 or DMS certificates.

1. cn: User-Cert
2. ldapDisplayName: userCert
3. attributeId: 1.2.840.113556.1.4.645
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a69-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 32767
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 14882
14. isMemberOfPartialAttributeSet: TRUE
15. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute userCertificate

This attribute specifies the DER-encoded X509v3 certificates issued to the user ([[RFC3280]](http://go.microsoft.com/fwlink/?LinkId=90414)). Note that this property contains the public key certificates issued to this user by Microsoft Certificate Service.

1. cn: X509-Cert
2. ldapDisplayName: userCertificate
3. attributeId: 2.5.4.36
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a7f-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 32768
11. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
12. mapiID: 35946
13. isMemberOfPartialAttributeSet: TRUE
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeUpper is not defined.

## Attribute userClass

This attribute specifies a category of computer user.

1. cn: userClass
2. ldapDisplayName: userClass
3. attributeId: 0.9.2342.19200300.100.1.8
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 11732a8a-e14d-4cc5-b92f-d93f51c6d8e4
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 256

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute userParameters

This attribute specifies parameters of the user and is set aside for use by applications. Terminal servers use this attribute to store session configuration data for the user. For more information, see [[MS-TSTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-TSTS%5d.pdf). Microsoft Callback Control Protocol [[MS-CBCP]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-CBCP%5d.pdf) also uses this attribute to retrieve the callback configuration options for the user.

1. cn: User-Parameters
2. ldapDisplayName: userParameters
3. attributeId: 1.2.840.113556.1.4.138
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a6d-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 32767
12. attributeSecurityGuid: 4c164200-20c0-11d0-a768-00aa006e0529
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute userPassword

This attribute specifies the user's password in UTF-8 format. This is a write-only attribute.

1. cn: User-Password
2. ldapDisplayName: userPassword
3. attributeId: 2.5.4.35
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a6e-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 128
12. mapiID: 33107
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute userPKCS12

This attribute specifies the PKCS #12 PFX Protocol Data Unit (PDU) for exchange of personal identity information.

1. cn: userPKCS12
2. ldapDisplayName: userPKCS12
3. attributeId: 2.16.840.1.113730.3.1.216
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: 23998ab5-70f8-4007-a4c1-a84a38311f9a
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute userPrincipalName

This attribute specifies the user principal name (UPN) that is an Internet-style logon name for a user, as specified in the Internet standard [[RFC822]](http://go.microsoft.com/fwlink/?LinkId=90497). The UPN is shorter than the distinguished name and easier to remember. By convention, the UPN should map to the user email name. For more information about this attribute, see [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf).

1. cn: User-Principal-Name
2. ldapDisplayName: userPrincipalName
3. attributeId: 1.2.840.113556.1.4.656
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 28630ebb-41d5-11d1-a9c1-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeUpper: 1024
11. attributeSecurityGuid: e48d0154-bcf8-11d1-8702-00c04fb96050
12. isMemberOfPartialAttributeSet: TRUE
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
14. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
15. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeUpper is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute userSharedFolder

This attribute specifies a UNC path to the user's shared documents folder. The path must be a network UNC path of the form \\server\share\directory. This value can be a null string.

1. cn: User-Shared-Folder
2. ldapDisplayName: userSharedFolder
3. attributeId: 1.2.840.113556.1.4.751
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 9a9a021f-4a5b-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute userSharedFolderOther

This attribute specifies a UNC path to the user's additional shared documents folder. The path must be a network UNC path of the form \\server\share\directory. This value can be a null string.

1. cn: User-Shared-Folder-Other
2. ldapDisplayName: userSharedFolderOther
3. attributeId: 1.2.840.113556.1.4.752
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 9a9a0220-4a5b-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute userSMIMECertificate

This attribute specifies a certificate distribution object or tagged certificates.

1. cn: User-SMIME-Certificate
2. ldapDisplayName: userSMIMECertificate
3. attributeId: 2.16.840.1.113730.3.140
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: e16a9db2-403c-11d1-a9c0-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeUpper: 32768
11. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
12. mapiID: 14960
13. isMemberOfPartialAttributeSet: TRUE

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeUpper is not defined, and the following attributes are defined differently.

1. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

## Attribute userWorkstations

This attribute specifies the NetBIOS or fully qualified domain names (FQDNs) (1) ([[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 1.1) of the computers running Windows NT Workstation operating system or Windows 2000 Professional operating system from which the user can log on. Each NetBIOS name is separated by a comma. The NetBIOS name of a computer is the saMAccountName property of a computer object. Multiple names should be separated by commas.

1. cn: User-Workstations
2. ldapDisplayName: userWorkstations
3. attributeId: 1.2.840.113556.1.4.86
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf9679d7-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: fCOPY
10. rangeLower: 0
11. rangeUpper: 1024
12. attributeSecurityGuid: 5f202010-79a5-11d0-9020-00c04fc2d4cf
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute attributeSecurityGuid is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uSNChanged

This attribute specifies the Update Sequence Number (USN) value assigned by the local directory for the latest change, including creation. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: USN-Changed
2. ldapDisplayName: uSNChanged
3. attributeId: 1.2.840.113556.1.2.120
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a6f-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE | fATTINDEX
10. mapiID: 32809
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uSNCreated

This attribute specifies the USN-Changed value assigned at object creation. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: USN-Created
2. ldapDisplayName: uSNCreated
3. attributeId: 1.2.840.113556.1.2.19
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a70-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: fPRESERVEONDELETE | fATTINDEX
10. mapiID: 33108
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uSNDSALastObjRemoved

This attribute specifies the USN for the last system object that was removed from a server. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: USN-DSA-Last-Obj-Removed
2. ldapDisplayName: uSNDSALastObjRemoved
3. attributeId: 1.2.840.113556.1.2.267
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a71-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. mapiID: 33109
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
12. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute USNIntersite

This attribute specifies the USN for inter-site replication. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: USN-Intersite
2. ldapDisplayName: USNIntersite
3. attributeId: 1.2.840.113556.1.2.469
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: a8df7498-c5ea-11d1-bbcb-0080c76670c0
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. mapiID: 33146
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute uSNLastObjRem

This attribute specifies the USN for the last non–system object that was removed from a server. For more information, refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: USN-Last-Obj-Rem
2. ldapDisplayName: uSNLastObjRem
3. attributeId: 1.2.840.113556.1.2.121
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a73-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. mapiID: 33110
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute uSNSource

This attribute specifies the value of the [USN-Changed](#Section_30ed4f48fd7a408eb578e0b6d46596c8) attribute of the object from the remote directory that replicated the change to the local server. For more information refer to [[MS-DRSR]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-DRSR%5d.pdf).

1. cn: USN-Source
2. ldapDisplayName: uSNSource
3. attributeId: 1.2.840.113556.1.4.896
4. attributeSyntax: 2.5.5.16
5. omSyntax: 65
6. isSingleValued: TRUE
7. schemaIdGuid: 167758ad-47f3-11d1-a9c3-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. mapiID: 33111
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute validAccesses

This attribute specifies the type of access that is permitted with an extended right.

1. cn: Valid-Accesses
2. ldapDisplayName: validAccesses
3. attributeId: 1.2.840.113556.1.4.1356
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 4d2fa380-7f54-11d2-992a-0000f87a57d4
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT
11. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute vendor

This attribute specifies the vendor for an application.

1. cn: Vendor
2. ldapDisplayName: vendor
3. attributeId: 1.2.840.113556.1.4.255
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: 281416df-1968-11d0-a28f-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 512
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute versionNumber

This attribute specifies a general purpose version number.

1. cn: Version-Number
2. ldapDisplayName: versionNumber
3. attributeId: 1.2.840.113556.1.4.141
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a76-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute versionNumberHi

This attribute specifies a general purpose major version number.

1. cn: Version-Number-Hi
2. ldapDisplayName: versionNumberHi
3. attributeId: 1.2.840.113556.1.4.328
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 7d6c0e9a-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute versionNumberLo

This attribute specifies a general purpose minor version number.

1. cn: Version-Number-Lo
2. ldapDisplayName: versionNumberLo
3. attributeId: 1.2.840.113556.1.4.329
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 7d6c0e9b-7e20-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute volTableGUID

This attribute specifies a unique identifier for a Link-Track-Volume table entry.

1. cn: Vol-Table-GUID
2. ldapDisplayName: volTableGUID
3. attributeId: 1.2.840.113556.1.4.336
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 1f0075fd-7e40-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 0
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute volTableIdxGUID

This attribute specifies the index identifier for a Link-Track-Volume table entry.

1. cn: Vol-Table-Idx-GUID
2. ldapDisplayName: volTableIdxGUID
3. attributeId: 1.2.840.113556.1.4.334
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: TRUE
7. schemaIdGuid: 1f0075fb-7e40-11d0-afd6-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: fATTINDEX
10. rangeLower: 0
11. rangeUpper: 16
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute volumeCount

This attribute specifies the tracked volume quota for a given computer.

1. cn: Volume-Count
2. ldapDisplayName: volumeCount
3. attributeId: 1.2.840.113556.1.4.507
4. attributeSyntax: 2.5.5.9
5. omSyntax: 2
6. isSingleValued: TRUE
7. schemaIdGuid: 34aaa217-b699-11d0-afee-0000f80367c1
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute wbemPath

This attribute specifies references to objects in other Active Directory Service Interface (ADSI) namespaces.

1. cn: Wbem-Path
2. ldapDisplayName: wbemPath
3. attributeId: 1.2.840.113556.1.4.301
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: FALSE
7. schemaIdGuid: 244b2970-5abd-11d0-afd2-00c04fd930c9
8. systemOnly: FALSE
9. searchFlags: 0
10. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute wellKnownObjects

This attribute specifies a list of well-known object containers by GUID and distinguished name. The well-known objects are system containers. This information is used to retrieve an object after it has been moved by using just the GUID and the domain name. Whenever the object is moved, the Active Directory system [[MS-ADOD]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADOD%5d.pdf) will automatically update the distinguished name portion of the Well-Known-Objects values that referred to the object. For information on well-known objects, well-known GUIDs, and their symbolic names, see [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf) section 6.1.1.4.

1. cn: Well-Known-Objects
2. ldapDisplayName: wellKnownObjects
3. attributeId: 1.2.840.113556.1.4.618
4. attributeSyntax: 2.5.5.7
5. omSyntax: 127
6. omObjectClass: 1.2.840.113556.1.1.1.11
7. isSingleValued: FALSE
8. schemaIdGuid: 05308983-7688-11d1-aded-00c04fd8d5cd
9. systemOnly: TRUE
10. searchFlags: 0
11. rangeLower: 16
12. rangeUpper: 16
13. isMemberOfPartialAttributeSet: TRUE
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
15. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
16. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, attribute rangeLower and rangeUpper is not defined.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute whenChanged

This attribute specifies the date when this object was last changed. This value is not replicated and exists in the global catalog. For more information refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf).

1. cn: When-Changed
2. ldapDisplayName: whenChanged
3. attributeId: 1.2.840.113556.1.2.3
4. attributeSyntax: 2.5.5.11
5. omSyntax: 24
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a77-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. mapiID: 12296
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER | FLAG\_ATTR\_NOT\_REPLICATED
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute whenCreated

This attribute specifies the date and time when this object was created. This value is replicated and is in the global catalog. For more information refer to [[MS-ADTS]](file:///E:\Target\Windows\Published\Books\MS-ADA3\%5bMS-ADTS%5d.pdf).

1. cn: When-Created
2. ldapDisplayName: whenCreated
3. attributeId: 1.2.840.113556.1.2.2
4. attributeSyntax: 2.5.5.11
5. omSyntax: 24
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a78-0de6-11d0-a285-00aa003049e2
8. systemOnly: TRUE
9. searchFlags: 0
10. mapiID: 12295
11. isMemberOfPartialAttributeSet: TRUE
12. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT |
13. FLAG\_ATTR\_REQ\_PARTIAL\_SET\_MEMBER
14. schemaFlagsEx: FLAG\_ATTR\_IS\_CRITICAL

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

In Windows 2000 Server, the following attributes are defined differently.

1. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

The [schemaFlagsEx](#Section_5ea3a8652cfa481d9892d00fd04514ea) attribute was added to this attribute definition in Windows Server 2008.

## Attribute winsockAddresses

This attribute specifies a Winsock service address.

1. cn: Winsock-Addresses
2. ldapDisplayName: winsockAddresses
3. attributeId: 1.2.840.113556.1.4.142
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a79-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. isMemberOfPartialAttributeSet: TRUE
11. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute wWWHomePage

This attribute specifies the primary web page.

1. cn: WWW-Home-Page
2. ldapDisplayName: wWWHomePage
3. attributeId: 1.2.840.113556.1.2.464
4. attributeSyntax: 2.5.5.12
5. omSyntax: 64
6. isSingleValued: TRUE
7. schemaIdGuid: bf967a7a-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 2048
12. attributeSecurityGuid: e45795b3-9455-11d1-aebd-0000f80367c1
13. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute x121Address

This attribute specifies the X.121 address for an object, as specified in [[X121]](http://go.microsoft.com/fwlink/?LinkId=107134).

1. cn: X121-Address
2. ldapDisplayName: x121Address
3. attributeId: 2.5.4.24
4. attributeSyntax: 2.5.5.6
5. omSyntax: 18
6. isSingleValued: FALSE
7. schemaIdGuid: bf967a7b-0de6-11d0-a285-00aa003049e2
8. systemOnly: FALSE
9. searchFlags: 0
10. rangeLower: 1
11. rangeUpper: 15
12. attributeSecurityGuid: 77b5b886-944a-11d1-aebd-0000f80367c1
13. mapiID: 33112
14. systemFlags: FLAG\_SCHEMA\_BASE\_OBJECT

Version-Specific Behavior: Implemented on Windows 2000 Server, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

## Attribute x500uniqueIdentifier

This attribute specifies when a distinguished name has been reused. This is a different attribute type from both the "uid" and "uniqueIdentifier" types.

1. cn: x500uniqueIdentifier
2. ldapDisplayName: x500uniqueIdentifier
3. attributeId: 2.5.4.45
4. attributeSyntax: 2.5.5.10
5. omSyntax: 4
6. isSingleValued: FALSE
7. schemaIdGuid: d07da11f-8a3d-42b6-b0aa-76c962be719a
8. systemOnly: FALSE
9. searchFlags: 0

Version-Specific Behavior: Implemented on Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 Technical Preview.

# Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

* A document revision that incorporates changes to interoperability requirements or functionality.
* The removal of a document from the documentation set.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

Major and minor changes can be described further using the following change types:

* New content added.
* Content updated.
* Content removed.
* New product behavior note added.
* Product behavior note updated.
* Product behavior note removed.
* New protocol syntax added.
* Protocol syntax updated.
* Protocol syntax removed.
* New content added due to protocol revision.
* Content updated due to protocol revision.
* Content removed due to protocol revision.
* New protocol syntax added due to protocol revision.
* Protocol syntax updated due to protocol revision.
* Protocol syntax removed due to protocol revision.
* Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

* **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
* **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com).

| Section | Tracking number (if applicable) and description | Major change (Y or N) | Change type |
| --- | --- | --- | --- |
| [2](#Section_bab1f95215ea413f90b870817214d54d) Attributes | Updated product implementation notes for Windows Server 2016 Technical Preview operating system. | N | Content update. |

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