

Windows Protocols Errata

This topic lists the Errata found in the Windows Protocols Technical Specifications, Overview Documents, and Reference documents since they were last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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Errata are content issues in published versions of protocols documents that could impact an **implementation**. Examples of errata are errors or missing information in the normative sections of the Technical Specifications or in the use cases (examples) in the Technical Specifications and Overview Documents.

Content issues that don't impact an implementation, for example, editorial updates due to typos, formatting updates, and rewrites for readability and clarity, are **not** included in Errata.

The sections below list the Windows Protocols documents that contain active Errata (i.e., Errata not yet released with the documents on MSDN) and provide links to archived Errata (i.e., Errata already released with the documents on MSDN).

Protocols Documents with Active Errata

[\[MS-ADA2\]: Active Directory Schema Attributes M](#)

[\[MS-ADTS\]: Active Directory Technical Specification](#)

[\[MS-DFSC\]: Distributed File System \(DFS\) Referral Protocol](#)

[\[MS-DNSP\]: Domain Name Service \(DNS\) Server Management Protocol](#)

[\[MS-DPWSSN\]: Devices Profile for Web Services \(DPWS\) Size Negotiation Extension](#)

[\[MS-FSCC\]: File System Control Codes](#)

[\[MS-GSSA\]: Generic Security Service Algorithm for Secret Key Transaction Authentication for DNS \(GSS-TSIG\) Protocol Extension](#)

[\[MS-MWBF\]: Microsoft Web Browser Federated Sign-On Protocol](#)

[\[MS-NNS\]: .NET NegotiateStream Protocol](#)

[\[MS-OAPX\]: OAuth 2.0 Protocol Extensions](#)

[\[MS-OAPXBC\]: OAuth 2.0 Protocol Extensions for Broker Clients](#)

[\[MS-OTPCE\]: One-Time Password Certificate Enrollment Protocol](#)

[\[MS-RDPEFS\]: Remote Desktop Protocol: File System Virtual Channel Extension](#)

[\[MS-RDPEPC\]: Remote Desktop Protocol: Print Virtual Channel Extension](#)

[\[MS-RDPEUDP\]: Remote Desktop Protocol: UDP Transport Extension](#)

[\[MS-RDPRFX\]: Remote Desktop Protocol: RemoteFX Codec Extension](#)

[\[MS-RMPR\]: Rights Management Services \(RMS\): Client-to-Server Protocol](#)

[\[MS-RSVD\]: Remote Shared Virtual Disk Protocol](#)

[\[MS-SAMR\]: Security Account Manager \(SAM\) Remote Protocol \(Client-to-Server\)](#)

[\[MS-SMB2\]: Server Message Block \(SMB\) Protocol Versions 2 and 3](#)

[\[MS-TDS\]: Tabular Data Stream Protocol](#)

[\[MS-TSGU\]: Terminal Services Gateway Server Protocol](#)

[\[MS-WSDS\]: WS-Enumeration Directory Services Protocol Extensions](#)

Errata Archives

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Last date updated: September 12, 2016

[MS-ABTP]: Automatic Bluetooth Pairing Protocol

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[MS-ADA2]: Active Directory Schema Attributes M

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Errata below are for Protocol Document Version [V29.0 - 2016/07/14](#).

Errata Published*	Description
2016/08/29	<p>In Section 2.209, Attribute msDS-AllowedDNSSuffixes, changed "forest" to "domain" in the description of the msDS-AllowedDNSSuffixes attribute.</p> <p>Changed from:</p> <p>For a given Active Directory forest, this attribute specifies the list of DNS suffixes (by their fully qualified domain name (FQDN) (1) ([MS-ADTS] section 1.1)) allowed to be used to identify computers that are members of that forest.</p> <p>Changed to:</p> <p>For a given Active Directory domain, this attribute specifies the list of DNS suffixes (by their fully qualified domain name (FQDN) (1) ([MS-ADTS] section 1.1)) allowed to be used to identify computers that are members of that domain.</p>

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[MS-ADDM]: Active Directory Web Services: Data Model and Common Elements

This topic lists the Errata found in [MS-ADDM] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-ADFSOAL]: Active Directory Federation Services OAuth Authorization Code Lookup Protocol

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[MS-ADFSPiP]: Active Directory Federation Services and Proxy Integration Protocol

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[MS-ADFSWAP]: Active Directory Federation Service (AD FS) Web Agent Protocol

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[MS-ADSC]: Active Directory Schema Classes

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[MS-ADTS]: Active Directory Technical Specification

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Errata below are for Protocol Document Version [V43.0 - 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In two sections, added information that applies to the Active Directory implementation of VLV through Windows Server 2012 R2 without [MSKB-3106637] installed, or through Windows Server 2012 with [MSKB-3106637] installed.</p> <p>In Section 1.2.1, Normative References, included the following reference: [MSKB-3106637] Microsoft Corporation, "Incorrect results in LDAP query, domain controller restarts, or user logons are denied in Windows Server 2012 R2", https://support.microsoft.com/en-us/kb/3106637</p> <p>In Section 3.1.1.3.4.1.17, LDAP_CONTROL_VLVREQUEST and LDAP_CONTROL_VLVRESPONSE, included the following note at the end of the section: Active Directory support for VLV is specified in section 3.1.1.3.4.1 (see LDAP_CONTROL_VLVREQUEST and LDAP_CONTROL_VLVRESPONSE). The following information applies to the Active Directory implementation of VLV through Windows Server 2012 R2 without [MSKB-3106637] installed, or through Windows Server 2012 with [MSKB-3106637] installed: If an LDAP search has the LDAP_CONTROL_VLVREQUEST attached, a desired target object is specified using the greaterThanOrEqualTo choice, and the attribute specified in the sort control is of the 2.5.5.11 time syntax (section 3.1.1.2.2.2), a random object is returned, not an object that satisfies the greaterThanOrEqualTo value.</p>

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[MS-AIPS]: Authenticated Internet Protocol

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[MS-APDS]: Authentication Protocol Domain Support

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[MS-AZOD]: Authorization Protocols Overview

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[MS-BKRP]: BackupKey Remote Protocol

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[MS-CAPR]: Central Access Policy Identifier (ID) Retrieval Protocol

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[MS-CHAP]: Extensible Authentication Protocol Method for Microsoft Challenge Handshake Authentication Protocol (CHAP)

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[MS-CIFS]: Common Internet File System (CIFS) Protocol

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[MS-CMRP]: Failover Cluster: Management API (ClusAPI) Protocol

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[MS-CSRA]: Certificate Services Remote Administration Protocol

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[MS-CSSP]: Credential Security Support Provider (CredSSP) Protocol

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[MS-CSVP]: Failover Cluster: Setup and Validation Protocol (ClusPrep)

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[MS-DCOM]: Distributed Component Object Model (DCOM) Remote Protocol

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[MS-DFSC]: Distributed File System (DFS) Referral Protocol

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Errata below are for Protocol Document Version [V25.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In Section 3.1.5.1, I/O Operation to Target Fails with STATUS_PATH_NOT_COVERED, the last paragraph was changed from:</p> <p>On a cache miss, it MUST issue a DFS link referral request, as specified in section 3.1.4.2, providing "LINK", the DFS root target server specified by TargetHint of ReferralCache entry corresponding to the DFS namespace, UserCredentials, MaxOutputSize, and Path as parameters. The Path parameter MUST be set to the path in the I/O operation issued to the DFS root target in step 8 of section 3.1.4.1. Process the DFS referral response as specified in section 3.1.5.4.3, which will update the ReferralCache.<9> The resulting ReferralCache entry MUST be used in further processing.</p> <p>Changed to:</p> <p>Otherwise, the client MUST obtain the file attributes of the DFS link as specified in [MS-CIFS] section 3.2.4.12 or [MS-SMB2] section 3.2.4.8 based on the protocol transport.</p> <p>If the file attributes include FILE_ATTRIBUTE_REPARSE_POINT, the client MUST issue a DFS link referral request, as specified in section 3.1.4.2, providing as parameters "LINK", the DFS root target server specified by the TargetHint of the ReferralCache entry corresponding to the DFS namespace, UserCredentials, MaxOutputSize, and Path. The Path parameter MUST be set to the path in the I/O operation issued to the DFS root target in step 8 of section 3.1.4.1. The client MUST process the DFS referral response as specified in section 3.1.5.4.3, which will update the ReferralCache.<9> The resulting ReferralCache entry, if any, MUST be used in further processing.</p>

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[MS-DNSP]: Domain Name Service (DNS) Server Management Protocol

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Errata below are for Protocol Document Version [V31.0 - 2016/07/14](#).

Errata Published*	Description
2016/08/29	<p>In two sections, revisions were made to the description of one field and one value to account for scenarios where virtualization instances are automatically created via the CreateVirtualizationInstance operation.</p> <p>In Section 2.2.5.2.2, DNS_RPC_ZONE_FLAGS, changed the description of the AutoCreated field from:</p> <p>...</p> <p>D (AutoCreated): If set to 1, indicates that zone was auto-created. A DNS server MAY automatically create certain zones at boot time which are flagged as "AutoCreated". Such zones are never written to persistent storage, and the DNS Server MUST NOT perform any DNS Server Management Protocol RPC operations on such zones.<38></p> <p>...</p> <p>Changed to:</p> <p>...</p> <p>D (AutoCreated): If set to 1, indicates that zone was auto-created. A DNS server MAY automatically create certain zones at boot time or when a virtualization instance is created via the CreateVirtualizationInstance RPC operation (section 3.1.4.1), and flag these zones as "AutoCreated". Such zones are never written to persistent storage, and the DNS Server MUST NOT perform any DNS Server Management Protocol RPC operations on such zones.<38></p> <p>...</p> <p>In Section 2.2.5.2.4.1, DNS_RPC_ZONE_INFO_W2K, revised the description of the fAutoCreated value from:</p> <p>...</p> <p>fAutoCreated: A Boolean value that indicates whether this zone was autocreated by the DNS server at boot time.</p> <p>...</p> <p>Changed to:</p>

Errata Published*	Description
	<p>...</p> <p>fAutoCreated: A Boolean value that indicates whether this zone was autocreated by the DNS server at boot time or when a virtualization instance is created via the CreateVirtualizationInstance RPC operation (section 3.1.4.1).</p> <p>...</p>
2016/08/15	<p>In several sections, made updates to address inconsistencies between the IDL and the text in those sections.</p> <p>In Section 2.2.1.1.1, DNS_RPC_TYPEID, added DNSSRV_TYPEID_ANY to the list of enumeration values, and added a description for this value ("Type is invalid.").</p> <p>Changed from:</p> <p>...</p> <pre>typedef enum _DnssrvRpcTypeId { DNSSRV_TYPEID_NULL = 0, DNSSRV_TYPEID_DWORD, ... }</pre> <p>Changed to:</p> <p>...</p> <pre>typedef enum _DnssrvRpcTypeId { DNSSRV_TYPEID_ANY = (-1), DNSSRV_TYPEID_NULL = 0, DNSSRV_TYPEID_DWORD, ... }</pre> <p>In Section 2.2.12.1, Enumerations and Constants, updated the value for MAX_RECORD_TYPES row to reflect the correct number of record types from 0x0000001D to 0x00000020.</p> <p>In Section 2.2.15.1.1.5, DNS_RPC_POLICY_TYPE, added an entry for DnsPolicyMax to the list of values in the table for this enumeration:</p> <p>DnsPolicyMax Shows the maximum DNS policies supported.</p> <p>In Section 3.1.4.17, R_DnssrvQuery4 (Opnum 16), removed the hBindingHandle parameter to match the IDL.</p> <p>Changed from:</p> <p>...</p> <pre>LONG R_DnssrvQuery4([in] handle_t hBindingHandle, [in] DWORD dwClientVersion, [in] DWORD dwSettingFlags, ...)</pre> <p>Changed to:</p>

Errata Published*	Description
	<p>...</p> <pre> LONG R_DnssrvQuery4([in] DWORD dwClientVersion, [in] DWORD dwSettingFlags, ... </pre> <p>...</p> <p>In Section 6, Appendix A: Full ID:</p> <ul style="list-style-type: none"> ▪ Added "DNSSRV_TYPEID_ANY = (-1)" to the DnssrvRpcTypeId enumeration. ▪ Updated the value for the MAX_RECORD_TYPES definition in the DNS_ZONE_STATS_TYPE enumeration from 31 to 32. ▪ Removed the hBindingHandle parameter for the following methods in the DnsServer interface: <pre> R_DnssrvOperation R_DnssrvQuery R_DnssrvComplexOperation R_DnssrvEnumRecords R_DnssrvUpdateRecord R_DnssrvQuery2 R_DnssrvComplexOperation2 R_DnssrvEnumRecords2 R_DnssrvUpdateRecord2 </pre>

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[MS-DPWSSN]: Devices Profile for Web Services (DPWS) Size Negotiation Extension

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Errata Published*	Description
2016/09/12	<p>In Section 6, Appendix A: Full WSDL, added quotation marks missing from the value for the xmlns:lms attribute.</p> <p>Changed from:</p> <pre><?xml version="1.0" encoding="UTF-8"?> <xs:schema targetNamespace="http://schemas.microsoft.com/windows/dpws/LargeMetadataSupport/2007/08" xmlns:lms=http://schemas.microsoft.com/windows/dpws/LargeMetadataSupport/2007/08 xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"> ...</pre> <p>Changed to:</p> <pre><?xml version="1.0" encoding="UTF-8"?> <xs:schema targetNamespace="http://schemas.microsoft.com/windows/dpws/LargeMetadataSupport/2007/08" xmlns:lms="http://schemas.microsoft.com/windows/dpws/LargeMetadataSupport/2007/08" xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"> ...</pre>

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[MS-DRSR]: Directory Replication Service (DRS) Remote Protocol

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[MS-DTCO]: MSDTC Connection Manager: OleTx Transaction Protocol

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[MS-DSCPM]: Desired State Configuration Pull Model Protocol

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[MS-DTYP]: Windows Data Types

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[MS-DVRD]: Device Registration Discovery Protocol

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[MS-DVRE]: Device Registration Enrollment Protocol

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[MS-ECS]: Enterprise Client Synchronization Protocol

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[MS-EFSR]: Encrypting File System Remote (EFSRPC) Protocol

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[MS-EMF]: Enhanced Metafile Format

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[MS-EMFPLUS]: Enhanced Metafile Format Plus Extensions

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[MS-ERREF]: Windows Error Codes

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[MS-EVEN]: EventLog Remoting Protocol

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[MS-FASP]: Firewall and Advanced Security Protocol

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[MS-FRS2]: Distributed File System Replication Protocol

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[MS-FSA]: File System Algorithms

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[MS-FSCC]: File System Control Codes

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Errata below are for Protocol Document Version [V40.0 - 2016/07/14](#).

Errata Published*	Description		
2016/08/29	<p>In Section 2.1.2.1, Reparse Tags, added a missing constant.</p> <p>Added:</p> <table><tr><td>IO_REPARSE_TAG_NFS 0x80000014</td><td>Used by the Network File System (NFS) component. Server-side interpretation only, not meaningful over the wire.</td></tr></table>	IO_REPARSE_TAG_NFS 0x80000014	Used by the Network File System (NFS) component. Server-side interpretation only, not meaningful over the wire.
IO_REPARSE_TAG_NFS 0x80000014	Used by the Network File System (NFS) component. Server-side interpretation only, not meaningful over the wire.		

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[MS-FSRVP]: File Server Remote VSS Protocol

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[MS-FSVCA]: File Set Version Comparison Algorithms

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[MS-GPPREF]: Group Policy: Preferences Extension Data Structure

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[MS-GPSB]: Group Policy: Security Protocol Extension

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[MS-GPOL]: Group Policy: Core Protocol

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[MS-GSSA]: Generic Security Service Algorithm for Secret Key Transaction Authentication for DNS (GSS-TSIG) Protocol Extension

This topic lists the Errata found in the MS-GSSA document since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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Errata below are for Protocol Document Version [V8.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/29	<p>A new section, 3.1.5.4, Domain Name Compression, has been added to discuss domain name compression.</p> <p>Added:</p> <p>3.1.5.4 Domain Name Compression</p> <p>As described in [RFC1123] section 6.1.2.4, name servers MUST use compression in responses. For TSIG resource record in DNS response messages, compression is not supported.</p>

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[MS-HTTPE]: Hypertext Transfer Protocol (HTTP) Extensions

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[MS-ICPR]: ICertPassage Remote Protocol

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[MS-IKEE]: Internet Key Exchange Protocol Extensions

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[MS-IPAMM2]: IP Address Management (IPAM) Management Protocol Version 2

This topic lists the Errata found in [MS-IPAMM2] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-KILE]: Kerberos Protocol Extensions

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[MS-LSAD]: Local Security Authority (Domain Policy) Remote Protocol

This topic lists the Errata found in [MS-LSAT] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-LSAT]: Local Security Authority (Translation Methods) Remote Protocol

This topic lists the Errata found in [MS-LSAT] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-MDE]: Mobile Device Enrollment Protocol

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[MS-MDE2]: Mobile Device Enrollment Protocol Version 2

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[MS-MDM]: Mobile Device Management Protocol

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[MS-MWBE]: Microsoft Web Browser Federated Sign-On Protocol Extensions

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[MS-MWBF]: Microsoft Web Browser Federated Sign-On Protocol

This topic lists the Errata found in [MS-MWBF] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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Errata below are for Protocol Document Version [V11.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/04 (updated) 2016/07/18	<p>In three sections, added and updated information about the prompt URI parameter regarding its existing behavior and behavior that is modified through KB/QFE 3172614.</p> <p>In Section 1.2.1, Normative References, included the following reference: [MSKB-3172614] Microsoft Corporation, "July 2016 update rollup for Windows RT 8.1, Windows 8.1, and Windows Server 2012 R2", https://support.microsoft.com/en-us/kb/3172614</p> <p>In Section 2.2.3, wsignin1.0 Request Message, changed from:</p> <p>...</p> <ul style="list-style-type: none">• prompt (optional): This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1, but the only accepted value for this parameter is "login".<20> Any other values are ignored. This parameter is used to interactively prompt the end-user for re-authentication. Error handling for this parameter follows the specification of section 3.1.5.2. <p>...</p> <p><20> Section 2.2.3: The prompt parameter is not supported on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, or Windows Server 2012 R2. Additionally, it is supported only in AD FS server with AD FS behavior level set to AD_FS_BEHAVIOR_LEVEL_2 or higher, and ignored otherwise.</p> <p>Changed to:</p> <p>...</p> <ul style="list-style-type: none">• prompt (optional): This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1, but the only accepted value for this parameter is "login".<20> Any other values are ignored. This parameter is used to interactively prompt the end-user for re-authentication. Error handling for this parameter follows the specification of section 3.1.5.2. <p>...</p> <p><20> Section 2.2.3: The prompt parameter is not supported on Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012. It is also not supported on Windows Server 2012 R2 unless [MSKB-3172614] is installed.</p> <p>In Section 3.1.5.3.4, Message Transmission, changed from:</p> <p>...</p> <p>The following are recommended best practices:</p> <ul style="list-style-type: none">• Upon forwarding the wsignin1.0 request, the resource IP/STS SHOULD use only the parameters

Errata Published*	Description
	<p>that are supported by the requestor IP/STS behavior level. The resource IP/STS can track the requestor IP/STS behavior level and choose the forwarding behavior accordingly. Behavior-level tracking is implementation specific.</p> <ul style="list-style-type: none"> • For a resource IP/STS with the <code>ad_fs_behavior_level</code> ADM element, as defined in [MS-OAPX] section 3.2.1.1 (hereafter referred to simply as the AD FS behavior level) set to <code>AD_FS_BEHAVIOR_LEVEL_2</code> or higher, if it receives the prompt parameter and knows that the requestor IP/STS AD FS behavior level is lower than <code>AD_FS_BEHAVIOR_LEVEL_2</code>, the resource IP/STS SHOULD send a <code>wsignin1.0</code> request using the protocol-specific parameters (for example, <code>wfresh</code> and <code>wauth</code>) to facilitate a fresh and interactive authentication.... <p>Changed to:</p> <p>...</p> <p>The <code>ad_fs_behavior_level</code> ADM element is defined in [MS-OAPX] section 3.2.1.1 and is hereafter referred to simply as the AD FS behavior level. [MS-OAPX] section 3.2.1.1 also includes information about how the AD FS behavior level relates to product versions. The following are recommended best practices related to the AD FS behavior level:</p> <ul style="list-style-type: none"> • Upon forwarding the <code>wsignin1.0</code> request, the resource IP/STS SHOULD use only the parameters that are supported by the requestor IP/STS AD FS behavior level. The resource IP/STS can track the requestor IP/STS AD FS behavior level and choose the forwarding behavior accordingly. Behavior-level tracking is implementation specific. • If a resource IP/STS that supports the prompt parameter receives the prompt parameter and knows that the requestor IP/STS does not support the prompt parameter, the resource IP/STS SHOULD send a <code>wsignin1.0</code> request using the protocol-specific parameters (for example, <code>wfresh</code> and <code>wauth</code>) to facilitate a fresh and interactive authentication. <p>Note Support for the prompt parameter depends on the AD FS behavior level and the product version. See section 2.2.3 for support information. If the parameter is not supported by the AD FS server, it is ignored.</p> <p>...</p>

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[MS-NLMP]: NT LAN Manager (NTLM) Authentication Protocol

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[MS-NNS]: .NET NegotiateStream Protocol

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Errata below are for Protocol Document Version [V6.0 - 2016/07/14](#).

Errata Published*	Description
2016/07/18	<p>In Section 2.2.2, Data Message, changed from:</p> <p>This section defines the structure of the data exchange messages. These messages are used to transfer application-specific data after the handshake phase is complete. The .NET NegotiateStream Protocol only frames application data using the format noted in the following table if the negotiation of security services during the handshake phase resulted in both the client and server agreeing to sign or encrypt and sign the data to be transferred. Thus, if the negotiated security context in the handshake phase results in a context that does not support message confidentiality or integrity, then the data transferred is not framed, and does not follow the format specified in this section (that is, application-supplied data is written directly to the underlying TCP stream).</p> <p>Changed to (change in bold):</p> <p>This section defines the structure of the data exchange messages. These messages are used to transfer application-specific data after the handshake phase is complete. The .NET NegotiateStream Protocol only frames application data using the format noted in the following table if the negotiation of security services during the handshake phase resulted in both the client and server agreeing to sign or encrypt and sign the data to be transferred. Thus, if the negotiated security context in the handshake phase results in a context that supports neither message confidentiality nor integrity, then the data transferred is not framed, and does not follow the format specified in this section (that is, application-supplied data is written directly to the underlying TCP stream).</p> <p>In Section 3.1.4.1, Application Invocation of the .NET NegotiateStream Protocol, changed from:</p> <p>...</p> <p>If the function returns any major_status other than GSS_S_COMPLETE, the implementation MUST notify the application of the failure without sending anything over the Underlying TCP Connection. Otherwise, the implementation MUST store the returned credential handle as the Client Credentials, and MUST set the Stream State to CreatingSecurityToken. The implementation MUST pass the Client Credentials to the GSS_Init_sec_context function ([RFC2743] section 2.2.1). The input_context_handle parameter MUST be GSS_C_NO_CONTEXT. The targ_name parameter MUST be the Target Name. The mech_type parameter MUST be the same as that passed to GSS_Acquire_cred. The deleg_req_flag MUST be true if and only if Allowed Impersonation Level is Delegation. The conf_req_flag MUST be true if and only if the Required Protection Level is EncryptAndSign. The integ_req_flag MUST be true if and only if the Required Protection Level is Sign or EncryptAndSign. The mutual_req_flag, replay_det_req_flag, and sequence_req_flag MUST be true. The anon_req_flag MUST be false. The chan_bindings parameter MUST be the Channel Binding Token. The input_token MUST be NULL, and the lifetime_req MUST be 0.</p> <p>Changed to:</p> <p>...</p> <p>If the function returns any major_status other than GSS_S_COMPLETE, the implementation MUST notify the application of the failure without sending anything over the Underlying TCP</p>

Errata Published*	Description
	<p>Connection. Otherwise, the implementation MUST store the returned credential handle as the Client Credentials, and MUST set the Stream State to CreatingSecurityToken. The implementation MUST pass the Client Credentials to the GSS_Init_sec_context function ([RFC2743] section 2.2.1). The input_context_handle parameter MUST be GSS_C_NO_CONTEXT. The targ_name parameter MUST be the Target Name. The mech_type parameter MUST be the same as that passed to GSS_Acquire_cred. The deleg_req_flag MUST be true if and only if Allowed Impersonation Level is Delegation. The conf_req_flag MUST be true if and only if the Required Protection Level is EncryptAndSign. The integ_req_flag MUST be true if and only if the Required Protection Level is Sign or EncryptAndSign. The mutual_req_flag, replay_det_req_flag, and sequence_req_flag MUST be true. The anon_req_flag MUST be false. The chan_bindings parameter MUST be the Channel Binding Token. The input_token MUST be NULL, and the lifetime_req MUST be 0.</p> <p>If the conf_avail return value is true, the integ_avail return value MUST also be true, and the Negotiated Protection Level is EncryptAndSign. If the conf_avail return value is false and the integ_avail return value is true, the Negotiated Protection Level is Sign. Otherwise, the Negotiated Protection Level is None.</p>

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[MS-NRPC]: Netlogon Remote Protocol

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[MS-OAPX]: OAuth 2.0 Protocol Extensions

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Errata Published*	Description								
2016/08/04 (updated) 2016/07/18	<p>In several sections, added and updated information about the prompt URI parameter regarding its existing behavior and behavior that is modified through KB/QFE 3172614.</p> <p>In Section 1.2.1, Normative References, included the following reference: [MSKB-3172614] Microsoft Corporation, "July 2016 update rollup for Windows RT 8.1, Windows 8.1, and Windows Server 2012 R2", https://support.microsoft.com/en-us/kb/3172614.</p> <p>In Section 2.2.2, Common URI Parameters, changed from:</p> <table><tr><th>URI parameter</th><th>Description</th></tr><tr><td>prompt</td><td>OPTIONAL. This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1. The AD FS server ignores this parameter unless its ad_fs_behavior_level is AD_FS_BEHAVIOR_LEVEL_2 or higher.</td></tr></table> <p>Changed to:</p> <table><tr><th>URI parameter</th><th>Description</th></tr><tr><td>prompt</td><td>OPTIONAL. This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1, but the only accepted values for this parameter are "none" and "login". This parameter and the accepted values specified above SHOULD<2> be supported for all values of ad_fs_behavior_level.</td></tr></table> <p><2> Section 2.2.2: The prompt parameter is not supported on Windows Server 2012 R2 unless [MSKB-3172614] is installed. Even with [MSKB-3172614] installed, the "none" value for the parameter is not supported on Windows Server 2012 R2.</p> <p>In Section 2.2.2.7, prompt, changed from: ... The prompt query parameter is OPTIONAL, and can be specified by the client role of the OAuth</p>	URI parameter	Description	prompt	OPTIONAL. This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1. The AD FS server ignores this parameter unless its ad_fs_behavior_level is AD_FS_BEHAVIOR_LEVEL_2 or higher.	URI parameter	Description	prompt	OPTIONAL. This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1, but the only accepted values for this parameter are "none" and "login". This parameter and the accepted values specified above SHOULD<2> be supported for all values of ad_fs_behavior_level.
URI parameter	Description								
prompt	OPTIONAL. This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1. The AD FS server ignores this parameter unless its ad_fs_behavior_level is AD_FS_BEHAVIOR_LEVEL_2 or higher.								
URI parameter	Description								
prompt	OPTIONAL. This query parameter is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1, but the only accepted values for this parameter are "none" and "login". This parameter and the accepted values specified above SHOULD<2> be supported for all values of ad_fs_behavior_level.								

Errata Published*	Description
	<p>2.0 Protocol Extensions. This parameter has the same behavior as the prompt parameter defined in [OIDCCore] section 3.1.2.1, but can be specified regardless of whether the client role also requests the "openid" scope.</p> <p>The AD FS server ignores this parameter unless its ad_fs_behavior_level is AD_FS_BEHAVIOR_LEVEL_2 or higher.</p> <p>...</p> <p>Changed to:</p> <p>...</p> <p>The prompt query parameter is OPTIONAL, and can be specified by the client role of the OAuth 2.0 Protocol Extensions. This parameter has the same behavior as the prompt parameter defined in [OIDCCore] section 3.1.2.1 (see section 2.2.2 for exceptions and support information), but can be specified regardless of whether the client role also requests the "openid" scope.</p> <p>...</p> <p>In Section 3.2.5.1.1, GET, changed from:</p> <p>...</p> <p>prompt: OPTIONAL. The client can choose to specify this optional query parameter. It is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1.</p> <p>...</p> <p>Changed to:</p> <p>...</p> <p>prompt: OPTIONAL. The client can choose to specify this optional query parameter. It is used in the same way as the prompt parameter defined in [OIDCCore] section 3.1.2.1.</p> <p>Note Support for the prompt parameter depends on the AD FS server's ad_fs_behavior_level and the product version. See section 2.2.2 for support information.</p> <p>...</p> <p>In Section 3.2.5.1.1.3, Processing Details, changed from:</p> <p>...</p> <ul style="list-style-type: none"> • If the AD FS server's ad_fs_behavior_level is AD_FS_BEHAVIOR_LEVEL_2 or higher and the OAuth 2.0 client provided a value of "none" or "login" for the prompt query parameter, the AD FS server follows the behavior described for the prompt parameter in [OIDCCore] section 3.1.2.1. <p>...</p> <p>Changed to:</p> <p>...</p> <ul style="list-style-type: none"> • If the prompt query parameter is supported and the OAuth 2.0 client provided a value of "none" or "login" for the prompt query parameter, the AD FS server follows the behavior described for the prompt parameter in [OIDCCore] section 3.1.2.1. <p>Note Support for the prompt parameter depends on the AD FS server's ad_fs_behavior_level and the product version. See section 2.2.2 for support information.</p> <p>...</p> <p>In Section 4.10, Authorization Code Request with prompt Parameter, changed from:</p> <p>Refer to [RFC6749] section 4.1.1 (Authorization Request). For more information on the prompt parameter, see [OIDCCore] section 3.1.2.1.</p> <p>...</p> <p>Changed to:</p>

Errata Published*	Description
	Refer to [RFC6749] section 4.1.1 (Authorization Request). For more information on the prompt parameter, see section 2.2.2 and [OIDCCore] section 3.1.2.1. ...

* Date format: YYYY/MM/DD

[MS-OAPXBC]: OAuth 2.0 Protocol Extensions for Broker Clients

This topic lists the Errata found in [MS-OAPXBC] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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Errata below are for Protocol Document Version [V2.0 – 2016/07/14](#).

Errata Published*	Description
2016/09/12	Modified several sections and added 16 new ones to document two missing headers, x-ms-RefreshTokenCredential and x-ms-DeviceCredential. For details on the changes, see the Word doc at MS-OAPXBC Errata 09_12.DOCX .

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[MS-OTPC]: One-Time Password Certificate Enrollment Protocol

This topic lists the Errata found in [MS-OTPC] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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Errata Published*	Description
2016/08/15	<p>In Section 2.2.3, SignCert Response, revised the below code snippet to match the IDL:</p> <pre><xs:complexType name="SignCertResponse"> <xs:sequence> <xs:element name="IssuingCA" type="xs:anyURI" minOccurs="0" maxOccurs="unbounded" /> </xs:sequence> <xs:attribute name="statusCode" type="otpcep:SignCertStatusCode" use="required" /> <xs:attribute name="SignedCertRequest" type="otpcep:CertificateBase64Binary" use="optional" /> </xs:complexType></pre> <p>In Section 3.2.5.1, Processing A SignCert Request Message, specified that the SignedCertRequest and IssuingCA attributes are not set on failure. Also specified that Password Authentication Protocol [RFC1334] over RADIUM is used to validate OTP credentials.</p>

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[MS-PEAP]: Protected Extensible Authentication Protocol (PEAP)

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[MS-PSRDP]: PowerShell Remote Debugging Protocol

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[MS-PSRP]: PowerShell Remoting Protocol

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[MS-RA]: Remote Assistance Protocol

This topic lists the Errata found in [MS-RA] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-RAI]: Remote Assistance Initiation Protocol

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[MS-RDPBCGR]: Remote Desktop Protocol: Basic Connectivity and Graphics Remoting

This topic lists the Errata found in [MS-RDPBCGR] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-RDPEA]: Remote Desktop Protocol: Audio Output Virtual Channel Extension

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[MS-RDPECLIP]: Remote Desktop Protocol: Clipboard Virtual Channel Extension

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[MS-RDPEDYC]: Remote Desktop Protocol: Dynamic Channel Virtual Channel Extension

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[MS-RDPEFS]: Remote Desktop Protocol: File System Virtual Channel Extension

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Errata below are for Protocol Document Version [V23.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In Section 2.2.1.3, Device Announce Header (DEVICE_ANNOUNCE), clarified that the maximum device name length should be 7 characters to account for the null terminator in the PreferredDosName field description.</p> <p>Changed from:</p> <p>...</p> <p>PreferredDosName (8 bytes): A string of ASCII characters with a maximum length of eight characters that represent the name of the device as it appears on the client. This field MUST not be null-terminated if the device name is 8 characters long. The following characters are considered invalid for the PreferredDosName field:</p> <p>...</p> <p>Changed to:</p> <p>...</p> <p>PreferredDosName (8 bytes): A string of ASCII characters (with a maximum length of eight characters) that represents the name of the device as it appears on the client. This field MUST be null-terminated, so the maximum device name is 7 characters long. The following characters are considered invalid for the PreferredDosName field:</p> <p>...</p>

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[MS-RDPEGDI]: Remote Desktop Protocol: Graphics Device Interface (GDI) Acceleration Extensions

This topic lists the Errata found in [MS-RDPEGDI] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-RDPEGFX]: Remote Desktop Protocol: Graphics Pipeline Extension

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[MS-RDPEI]: Remote Desktop Protocol: Input Virtual Channel Extension

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[MS-RDPEMC]: Remote Desktop Protocol: Multiparty Virtual Channel Extension

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[MS-RDPEMT]: Remote Desktop Protocol: Multitransport Extension

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[MS-RDPEPC]: Remote Desktop Protocol: Print Virtual Channel Extension

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Errata below are for Protocol Document Version [V8.0 - 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In Section 2.2.2.1, Client Device List Announce Request (DR_PRN_DEVICE_ANNOUNCE), updated the PreferredDosName field description to indicate mandatory usage of the "PRN" prefix.</p> <p>Changed from:</p> <p>...</p> <p>PreferredDosName (8 bytes): This field is defined in [MS-RDPEFS] section 2.2.1.3. The PreferredDosName field MUST be set to the port name on which the printer is installed.</p> <p>...</p> <p>Changed to:</p> <p>...</p> <p>PreferredDosName (8 bytes): This field is defined in [MS-RDPEFS] section 2.2.1.3. The PreferredDosName field MUST be set to the port name on which the printer is installed. The first 3 characters MUST be "PRN" and the remainder MUST be digits.</p> <p>...</p>

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[MS-RDPEPNP]: Remote Desktop Protocol: Plug and Play Devices Virtual Channel Extension

This topic lists the Errata found in [MS-RDPEPNP] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-RDPERP]: Remote Desktop Protocol: Remote Programs Virtual Channel Extension

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[MS-RDPESC]: Remote Desktop Protocol: Smart Card Virtual Channel Extension

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[MS-RDPESP]: Remote Desktop Protocol: Serial and Parallel Port Virtual Channel Extension

This topic lists the Errata found in [MS-RDPESP] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-RDPEUDP]: Remote Desktop Protocol: UDP Transport Extension

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Errata below are for Protocol Document Version [V9.0 - 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In Section 3.1.1.6.1.3, Logarithms and Exponents, clarified the modulo operation and indented the first line of syntax in the pseudo-code examples</p> <p>Changed from:</p> <p>...</p> <p>Pseudo-code example:</p> <pre>reduction = 0x1d; m_ffExp2Poly[0] = 0x01; for (i = 1; i < m_fieldSize - 1; i++) ...</pre> <p>Where m_fieldSize is 256 for GF(28)</p> <p>Logarithms are the inverse of exponents, and can be easily calculated by reversing the previous operation as shown in the following pseudo-code example:</p> <pre>m_ffPoly2Exp[0] = 2 * m_fieldSize; // no exponential representation, doesn't exist for (i = 0; i < m_fieldSize - 1; i++) ...</pre> <p>Changed to:</p> <p>...</p> <p>Pseudo-code example:</p> <pre>reduction = 0x1d; m_ffExp2Poly[0] = 0x01; for (i = 1; i < m_fieldSize - 1; i++) ...</pre> <p>Where m_fieldSize is 256 for GF(28). Note that m_ffExp2Poly is modulo m_fieldSize - 1. In other words, m_ffExp2Poly[n] = m_ffExp2Poly[n + m_fieldSize - 1]. The</p>

Errata Published*	Description
	<p>pseudo-code in this document makes the assumption that m_ffExp2Poly is defined for at least m_fieldSize * 2 elements.</p> <p>Logarithms are the inverse of exponents, and can be easily calculated by reversing the previous operation as shown in the following pseudo-code example:</p> <pre> m_ffPoly2Exp[0] = 2 * m_fieldSize; // no exponential representation, doesn't exist for (i = 0; i < m_fieldSize - 1; i++) ... </pre> <p>In Section 3.1.1.6.4, Selecting the Coefficients Matrix, replaced the source sequence number 0xf with 0xff in the Matrix coefficient calculation figure and in the pseudo-code.</p> <p>Changed from:</p> <p>If the Source sequence numbers (section 3.1.1.2) for packets S1, S2, S3 ... Sn are s1, s2, s3 ... sn, the coefficient matrix is calculated as follows.</p> <p>....</p> <p>Figure 12: Matrix coefficient calculation</p> <p>...</p> <p>Only the last byte of the Source sequence number is used in calculating the coefficient. The fecIndex field described in the following pseudo-code example is equivalent to the uFecIndex field, as specified in section 2.2.2.2. The value of the fecIndex field is updated using the following code prior to every call for encoding an FEC Packet:</p> <pre> if ((sn&0xf) >= (s1 &0xf) && ((fecIndex >= (s1 &0xf)) && (fecIndex <= (sn&0xf))) (sn&0xf) < (s1 &0xf) && ((fecIndex >= (s1 &0xf)) (fecIndex <= (sn&0xf)))) fecIndex = (sn+1) & 0xf; </pre> <p>Pseudo-code example:</p> <pre> ... for (int i=0; i < cLength; i++, ucOrigStart++) { BYTE e = Div(1, (*pucFecIndex)^ucOrigStart); pbCoEfficientArray[i] = (BYTE)m_ffPoly2Exp[e]; } ... for (int i=0; i < cLength; i++, ucOrigStart++) { BYTE e = Div(1, fecIndex^ucOrigStart); pbCoefficientArray[i] = (BYTE)m_ffPoly2Exp[e]; } ... </pre> <p>Changed to:</p> <p>If the Source sequence numbers (section 3.1.1.2) for packets S1, S2, S3 ... Sn are s1, s2, s3 ... sn, the coefficient matrix is calculated as follows.</p> <p>...</p> <p>Figure 12: Matrix coefficient calculation</p>

Errata Published*	Description																								
	<p>...</p> <p>Only the last byte of the Source sequence number is used in calculating the coefficient. The fecIndex field described in the following pseudo-code example is equivalent to the uFecIndex field, as specified in section 2.2.2.2. The value of the fecIndex field is updated using the following code prior to every call for encoding an FEC Packet:</p> <pre>if ((sn & 0xff) >= (s1 & 0xff) && ((fecIndex >= (s1 & 0xff)) && (fecIndex <= (sn & 0xff))) (sn & 0xff) < (s1 & 0xff) && ((fecIndex >= (s1 & 0xff)) (fecIndex <= (sn & 0xff)))) fecIndex = (sn + 1) & 0xff;</pre> <p>Pseudo-code example:</p> <pre>... for (int i=0; i < cLength; i++, ucOrigStart++) { pbCoEfficientArray[i] = (BYTE)Div(1, (*pucFecIndex)^(ucOrigStart & 0xff)); } ... for (int i=0; i < cLength; i++, ucOrigStart++) { pbCoefficientArray[i] = (BYTE)Div(1, fecIndex^(ucOrigStart & 0xff)); } ...</pre> <p>In Section 4.2.2.1, Payload of an FEC Packet, updated the FEC Payload table values and the CoEff Array packet value.</p> <p>Changed from:</p> <p>The following is an example of an FEC Packet network payload.</p> <table><tr><th>Sequence number</th><th>Size</th><th>Value</th></tr><tr><td>...</td><td></td><td></td></tr><tr><td>FEC Payload</td><td>0 66 208 168 239 37 29 238 180 193 24 58 66 252 233 126 172</td><td></td></tr><tr><td>211 135 31 206 27</td><td></td><td></td></tr></table> <p>The following are FEC encoding internals; these packets are not transferred on the wire:</p> <p>§ CoEff Array [0 254 230 253 205]</p> <p>...</p> <p>Changed to:</p> <p>The following is an example of an FEC Packet network payload.</p> <table><tr><th>Sequence number</th><th>Size</th><th>Value</th></tr><tr><td>...</td><td></td><td></td></tr><tr><td>FEC Payload</td><td>0 203 146 55 209 198 69 147 95 141 120 66 86 91 174 141 153</td><td></td></tr><tr><td>99 169</td><td></td><td></td></tr></table> <p>The following are FEC encoding internals; these packets are not transferred on the wire:</p>	Sequence number	Size	Value	...			FEC Payload	0 66 208 168 239 37 29 238 180 193 24 58 66 252 233 126 172		211 135 31 206 27			Sequence number	Size	Value	...			FEC Payload	0 203 146 55 209 198 69 147 95 141 120 66 86 91 174 141 153		99 169		
Sequence number	Size	Value																							
...																									
FEC Payload	0 66 208 168 239 37 29 238 180 193 24 58 66 252 233 126 172																								
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FEC Payload	0 203 146 55 209 198 69 147 95 141 120 66 86 91 174 141 153																								
99 169																									

Errata Published*	Description
	§ CoEff Array [1 142 244 71 167] ...

*Date format: YYYY/MM/DD

[MS-RDPEV]: Remote Desktop Protocol: Video Redirection Virtual Channel Extension

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[MS-RDPEVOR]: Remote Desktop Protocol: Video Optimized Remoting Virtual Channel Extension

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[MS-RDPEXPS]: Remote Desktop Protocol: XML Paper Specification (XPS) Print Virtual Channel Extension

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[MS-RDPRFX]: Remote Desktop Protocol: RemoteFX Codec Extension

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Errata below are for Protocol Document Version [V17.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In Section 3.1.8.2.5, Color Conversion (YCbCr to RGB), updated the figure with new color conversion (YCbCr to RGB) values: -3.43730 changed to -0.343730; 0.0 in the lower right element changed to 0.000013.</p> <p>Changed from:</p> $[RGB] = [YCbCr] \begin{bmatrix} 1.0 & 1.0 & 1.0 \\ 0.0 & -3.43730 & 1.769905 \\ 1.402525 & -0.71440 & 0.0 \end{bmatrix}$ <p>Changed to:</p> $[RGB] = [YCbCr] \begin{bmatrix} 1.0 & 1.0 & 1.0 \\ 0.0 & -0.343730 & 1.769905 \\ 1.402525 & -0.714401 & 0.000013 \end{bmatrix}$

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[MS-RMPR]: Rights Management Services (RMS): Client-to-Server Protocol

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Errata Published*	Description
2016/08/01	<p>In several places in Section 2, added double quotation marks around element attribute values.</p> <p>In Section 2.2.9.7.5, OWNER, changed from:</p> <pre><ID type=[[- type -]] /></pre> <p>Changed to:</p> <pre><ID type="[[- type -]]" /></pre> <p>In Section 2.2.9.8, Encrypted Rights Data, changed from:</p> <pre><BODY type=[[- erdtype -]] ></pre> <p>Changed to:</p> <pre><BODY type="[[- erdtype -]]" ></pre> <p>In Section 2.2.9.8.5.1, METADATA, changed from:</p> <pre><ID type=[[- type -]] /></pre> <p>Changed to:</p> <pre><ID type="[[- type -]]" /></pre> <p>In Section 2.2.9.8.5.3, RIGHT, changed from:</p> <pre><RIGHT name=[[- rightname -]] ></pre>

Errata Published*	Description
	<p>Changed to: <RIGHT name="[- rightname -]" ></p> <p>In Section 2.2.9.9.5, OWNER, changed from:</p> <p><ID type="[- type -]" /></p> <p>Changed to: <ID type="[- type -]" /></p> <p>In Section 2.2.9.9.6, RIGHT, changed from:</p> <p><RIGHT name="[- rightname -]" ></p> <p>Changed to: <RIGHT name="[- rightname -]" ></p> <p>In Section 2.2.9.10.4.2.1, RIGHT, changed from:</p> <p><RIGHT name="[- rightname -]" ></p> <p>Changed to: <RIGHT name="[- rightname -]" ></p>

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[MS-RMSOD]: Rights Management Services Protocols Overview

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[MS-RPCH]: Remote Procedure Call over HTTP Protocol

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[MS-RPRN]: Print System Remote Protocol

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[MS-RRASM]: Routing and Remote Access Server (RRAS) Management Protocol

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[MS-RSMC]: Remote Session Monitoring and Control Protocol

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[MS-RSVD]: Remote Shared Virtual Disk Protocol

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Errata below are for Protocol Document Version [V7.0 – 2016/07/14](#).

Errata Published*	Description																																																																																																
2016/09/12	<p>Modified one section and added 4 new sections to document a missing control code, RSVD_TUNNEL_QUERY_SAFE_SIZE.</p> <p>In Section 2.2.2, Operation Codes, added RSVD_TUNNEL_QUERY_SAFE_SIZE to the list of control codes.</p> <p>Added the following sections:</p> <p>2.2.4.40 SVHDX_TUNNEL_QUERY_SAFE_SIZE_RESPONSE STRUCTURE</p> <p>The SVHDX_TUNNEL_QUERY_SAFE_SIZE_RESPONSE structure contains the details of the safe virtual size.</p> <table><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr><tr><td colspan="32">SafeVirtualSize</td></tr><tr><td colspan="32">...</td></tr></table> <p>SafeVirtualSize (8 bytes): The smallest size, in bytes, that the virtual disk can be resized to without losing user data.</p> <p>3.1.4.27 Application Requests Querying Safe Size</p> <p>The application provides:</p> <ul style="list-style-type: none">• A handle to the Open identifying a shared virtual disk file. <p>The SVHDX_TUNNEL_OPERATION_HEADER MUST be initialized as follows:</p> <ul style="list-style-type: none">• The OperationCode field MUST be set to RSVD_TUNNEL_QUERY_SAFE_SIZE• The Status field MUST be set to zero.• The RequestId field MUST be set to RequestIdentifier. <p>The client MUST call the interface specified in [MS-SMB2] section 3.2.4.20.11, supplying the following input parameters:</p> <ul style="list-style-type: none">• Application-provided handle to identify the Open.• Control code: FSCTL_SVHDX_SYNC_TUNNEL_REQUEST.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	SafeVirtualSize																																...																															
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Errata Published*	Description
	<ul style="list-style-type: none"> SVHDX_TUNNEL_OPERATION_HEADER structure as payload. <p>3.1.5.18 Receiving a Safe Size Response The client MUST return the received status and response data to the calling application.</p> <p>3.2.5.5.15 Receiving a Safe Size Request When the server receives a request with an OperationCode equal to RSVD_TUNNEL_QUERY_SAFE_SIZE, the request handling proceeds as follows: If MaxOutputResponse is less than 24 (size of SVHDX_TUNNEL_OPERATION_HEADER + size of SVHDX_TUNNEL_QUERY_SAFE_SIZE_RESPONSE), the server MUST fail the request with STATUS_BUFFER_TOO_SMALL. The server MUST query the smallest size from the virtual SCSI disk in an implementation-specific manner. The server MUST construct an SVHDX_TUNNEL_SMALLEST_SAFE_VIRTUAL_SIZE_RESPONSE structure, as specified in section 2.2.4.40, with the following values:</p> <ul style="list-style-type: none"> The SafeVirtualSize field MUST be set to the value returned by virtual SCSI disk. <p>The SVHDX_TUNNEL_OPERATION_HEADER MUST be initialized as follows:</p> <ul style="list-style-type: none"> The OperationCode field MUST be set to the OperationCode value of the request. If the virtual SCSI disk indicates error, the Status field MUST be set to the error code returned by the virtual SCSI disk. Otherwise, set to STATUS_SUCCESS. The RequestId field MUST be set to the value received in the request. <p>The response MUST be sent to the client.</p>
2016/09/12	<p>In Sections 2.2.4.12, SVHDX_OPEN_DEVICE_CONTEXT Structure, 2.2.4.31, SVHDX_OPEN_DEVICE_CONTEXT_RESPONSE Structure, 2.2.4.32, SVHDX_OPEN_DEVICE_CONTEXT_V2 Structure, and 2.2.4.33, SVHDX_OPEN_DEVICE_CONTEXT_V2_RESPONSE Structure, the description of the InitiatorHostName field has been changed from:</p> <p>InitiatorHostName (126 bytes): A 126-byte buffer containing a null-terminated Unicode UTF- 16 string that specifies the computer name which initiated the request.</p> <p>Changed to:</p> <p>InitiatorHostName (126 bytes): A 126-byte buffer containing a Unicode UTF- 16 string that specifies the computer name which initiated the request</p>
2016/08/29	<p>In this document and in [MS-SMB2], added a new section and modified several others to document the regular SMB2 commands that are disallowed for a Shared Virtual Disk. For details on the changes, see the Word docs at MS-SMB2 Errata 08 29.DOCX and MS-RSVD Errata 08 29.DOCX.</p>
2016/08/15	<p>In Section 3.2.5.5.5, Receiving a SCSI Command Request, the following was added:</p> <p>If the virtual SCSI disk indicates an error, the server MUST return the SVHDX_TUNNEL_OPERATION_HEADER to the client initialized as below:</p> <ul style="list-style-type: none"> The OperationCode field MUST be set to the OperationCode value of the request. The Status field MUST be set to one of the error codes specified in section 2.2.3. The RequestId field MUST be set to the value received in the request. <p>The following was changed from:</p> <p>The server MUST construct a SVHDX_TUNNEL SCSI_RESPONSE structure as specified in section</p>

Errata Published*	Description
	<p>2.2.4.8 with the following values:</p> <p>The SVHDX_TUNNEL_OPERATION_HEADER MUST be initialized as follows:</p> <ul style="list-style-type: none"> • The OperationCode field MUST be set to the OperationCode value of the request. • The Status field MUST be set to the value received from the virtual SCSI disk. <p>Changed to:</p> <p>Otherwise, the server MUST construct a SVHDX_TUNNEL_SCSI_RESPONSE structure as specified in section 2.2.4.8 with the following values:</p> <p>The SVHDX_TUNNEL_OPERATION_HEADER MUST be initialized as follows:</p> <ul style="list-style-type: none"> • The OperationCode field MUST be set to the OperationCode value of the request. • The Status field MUST be set to zero.
2016/08/15	<p>In Section 3.2.5.1, Receiving an Open Request, clarified that ServerServiceVersion 1 and SVHDX_OPEN_DEVICE_CONTEXT_RESPONSE.Version does not depend on client version 2 by adding the following paragraph:</p> <p>If ServerServiceVersion is RSVD Protocol version 1 and if the first 4 bytes, interpreted as little-endian, of the received context is not 0x00000001, the server MUST fail the request with STATUS_INVALID_PARAMETER.</p>
2016/08/15	<p>In the sections listed below, added initialization of three fields for SVHDX_TUNNEL_OPERATION_HEADER:</p> <p>Section 3.2.5.5.1, Receiving a Virtual Disk File Information Request Section 3.2.5.5.4, Receiving a Shared Virtual Disk Information Request Section 3.2.5.5.8, Receiving a Query Meta-Operation Progress Request Section 3.2.5.5.9, Receiving a Query VHD Set Information Request Section 3.2.5.5.11, Receiving a Change Tracking Get Parameter Request</p> <p>Changed from:</p> <p>If the virtual SCSI disk indicates an error, the server MUST fail the request with the error received by placing it into the Status field of the SVHDX_TUNNEL_OPERATION_HEADER, and return the header to the client.</p> <p>Changed to:</p> <p>If the virtual SCSI disk indicates an error, the server MUST return the SVHDX_TUNNEL_OPERATION_HEADER to the client initialized as below:</p> <p>The OperationCode field MUST be set to the OperationCode value of the request. The Status field MUST be set to the error returned by the Virtual SCSI disk. The RequestId field MUST be set to the value received in the request.</p>
2016/08/15	<p>In Section 3.2.5.5.4, Receiving a Shared Virtual Disk Information Request, updated the information about LinkageID.</p> <p>Changed the fourth bullet of the third list from:</p> <p>If the virtual SCSI disk has a linked disk, LinkageID MUST be set to the implementation-specific unique identifier of the linked disk. Otherwise, LinkageID SHOULD be set to an implementation-specific<16> value.</p> <p>Changed to:</p>

Errata Published*	Description
	If the virtual SCSI disk has a linked disk, LinkageID MUST be set to the unique identifier of the linked disk. Otherwise, LinkageID SHOULD be set to an implementation-specific<16> value.

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[MS-SAMR]: Security Account Manager (SAM) Remote Protocol (Client-to-Server)

This topic lists the Errata found in [MS-SAMR] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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Errata below are for Protocol Document Version [V37.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/01	<p>Updated three sections with additional information about USER_PROPERTY elements.</p> <p>In Section 2.2.10.1, USER_PROPERTIES, changed from:</p> <p>PropertyCount (2 bytes): The number of USER_PROPERTY elements in the UserProperties field.</p> <p>Changed to:</p> <p>PropertyCount (2 bytes): The number of USER_PROPERTY elements in the UserProperties field. When there are zero USER_PROPERTY elements in the UserProperties field, this field MUST be omitted; the resultant USER_PROPERTIES structure has a constant size of 0x6F bytes.</p> <p>In Section 3.1.1.8.10, userAccountControl, changed from:</p> <p>...</p> <p>6. If the UF_SMARTCARD_REQUIRED bit is set and is NOT present in the previous value, the dBCSPwd and unicodePwd attributes MUST be updated with 16 bytes of random bytes, and the supplementalCredentials attribute MUST be removed.</p> <p>Changed to:</p> <p>...</p> <p>6. If the UF_SMARTCARD_REQUIRED bit is set and is NOT present in the previous value, the dBCSPwd and unicodePwd attributes MUST be updated with 16 bytes of random bytes, and all USER_PROPERTY elements MUST be removed from the supplementalCredentials attribute.</p> <p>In Section 3.1.1.8.11.1.1, USER_PROPERTIES Processing, included the following paragraph in the section:</p> <p>When the last property-value pair is removed, the PropertyCount field is no longer included in the USER_PROPERTIES structure. In this state, the absence of any user properties MUST be inferred from the structure's total length (0x6F bytes).</p>

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[MS-SMB]: Server Message Block (SMB) Protocol

This topic lists the Errata found in [MS-SMB] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



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[MS-SMB2]: Server Message Block (SMB) Protocol Versions 2 and 3

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Errata below are for Protocol Document Version [V49.0 - 2016/07/14](#).

Errata Published*	Description
2016/09/12	<p>In Section 3.3.5.21.3, Handling SMB2_0_INFO_SECURITY, the processing rules have been revised to add three new steps.</p> <p>Changed from:</p> <p>The following section assumes knowledge about security concepts as described in [MS-WPO] section 9 and specified in [MS-DTYP].<362></p> <p>The server MUST ignore any flag value in the AdditionalInformation field that is not specified in section 2.2.39.</p> <p>...</p> <p>4. The server MUST call into the underlying object store to set the security on the object.<363></p> <p>The fields being applied in the provided security descriptor are denoted by the flags given in the AdditionalInformation field of the request.</p> <p>...</p> <p>Changed to:</p> <p>The following section assumes knowledge about security concepts as described in [MS-WPO] section 9 and specified in [MS-DTYP].<362></p> <p>The server MUST ignore any flag value in the AdditionalInformation field that is not specified in section 2.2.39.</p> <p>...</p> <p>4. If ATTRIBUTE_SECURITY_INFORMATION is set in the AdditionalInformation field of the request, and Open.GrantedAccess does not include WRITE_DAC, the server SHOULD<363> fail the request with STATUS_ACCESS_DENIED.</p> <p>5. If SCOPE_SECURITY_INFORMATION is set in the AdditionalInformation field of the request, and Open.GrantedAccess does not include ACCESS_SYSTEM_SECURITY, the server SHOULD<364> fail the request with STATUS_ACCESS_DENIED.</p> <p>6. If BACKUP_SECURITY_INFORMATION is set in the AdditionalInformation field of the request, and Open.GrantedAccess does not include WRITE_DAC, WRITE_OWNER and ACCESS_SYSTEM_SECURITY the server SHOULD<365> fail the request with STATUS_ACCESS_DENIED.</p> <p>7. The server MUST call into the underlying object store to set the security on the object.<366></p>

Errata Published*	Description
	<p>The fields being applied in the provided security descriptor are denoted by the flags given in the AdditionalInformation field of the request.</p> <p>...</p> <p><363> Section 3.3.5.21.3: Windows Server 2008, Windows 7 and Windows Server 2008 R2 ignore the ATTRIBUTE_SECURITY_INFORMATION flag value.</p> <p><364> Section 3.3.5.21.3: Windows Server 2008, Windows 7 and Windows Server 2008 R2 ignore the SCOPE_SECURITY_INFORMATION flag value.</p> <p><365> Section 3.3.5.21.3: Windows Server 2008, Windows 7 and Windows Server 2008 R2 ignore the BACKUP_SECURITY_INFORMATION flag value.</p>
2016/09/12	<p>In Section 3.3.5.15.12, Handling a Validate Negotiate Info Request, the following paragraph has been added:</p> <p>This section applies only to servers that implement the SMB 3.x dialect family.</p>
2016/08/29	<p>In this document and in [MS-RSVD], added a new section and modified several others to document the regular SMB2 commands that are disallowed for a Shared Virtual Disk. For details on the changes, see the Word docs at MS-SMB2 Errata 08 29.DOCX and MS-RSVD Errata 08 29.DOCX.</p>
2016/08/29	<p>In Section 3.3.5.2.7.2, Handling Compounded Related Requests, the async processing rules for handling compounded requests have been changed from:</p> <p>If SMB2_FLAGS_RELATED_OPERATIONS is set in the Flags field of the SMB2 header of all requests except the first one, the received requests MUST be handled as a series of compounded related requests. If the first request has SMB2_FLAGS_RELATED_OPERATIONS set, the server SHOULD<217> fail processing the compound chain request.</p> <p>The server MUST handle each individual request that is described in the chain in order. For the first request, the identifiers for FileId, SessionId, and TreeId MUST be taken from the received request. For every subsequent request, the values used for FileId, SessionId, and TreeId MUST be the ones used in processing the previous request or generated for the previous resulting response.</p> <p>When the current request requires a SessionId or TreeId, and if the previous request failed to create SessionId or TreeId, or the previous request does not contain a SessionId or TreeId, the server MUST fail the compounded request with STATUS_INVALID_PARAMETER.</p> <p>When the current request requires a FileId, and if the previous request neither contains nor generates a FileId, the server MUST fail the compounded request with STATUS_INVALID_PARAMETER.</p> <p>When the current request requires a FileId and the previous request either contains or generates a FileId, if the previous request fails with an error, the server SHOULD<218> fail the current request with the same error code returned by the previous request.</p> <p>When all operations are complete, the responses SHOULD be compounded into a single response to return to the client. If the responses are compounded, the server SHOULD set SMB2_FLAGS_RELATED_OPERATIONS in the Flags field of the SMB2 header of all responses except the first one. This indicates that the response was part of a compounded chain.</p> <p>Changed to:</p> <p>If SMB2_FLAGS_RELATED_OPERATIONS is set in the Flags field of the SMB2 header of all</p>

Errata Published*	Description
	<p>requests except the first one, the received request MUST be handled as a series of compounded related operations. If the first operation has SMB2_FLAGS_RELATED_OPERATIONS set, the server SHOULD<217> fail processing the compound chain request.</p> <p>The server MUST handle each individual operation that is described in the chain in order. For the first operation, the identifiers for FileId, SessionId, and TreeId MUST be taken from the received operation. For every subsequent operation, the values used for FileId, SessionId, and TreeId MUST be the ones used in processing the previous operation or generated for the previous resulting response.</p> <p>When the current operation requires a SessionId or TreeId, and if the previous operation failed to create SessionId or TreeId, or the previous operation does not contain a SessionId or TreeId, the server MUST fail the current operation and all subsequent operations with STATUS_INVALID_PARAMETER.</p> <p>When the current operation requires a FileId, and if the previous operation neither contains nor generates a FileId, the server MUST fail the current operation and all subsequent operations with STATUS_INVALID_PARAMETER.</p> <p>When the current operation requires a FileId and the previous operation either contains or generates a FileId, if the previous operation fails with an error, the server SHOULD<218> fail the current operation with the same error code returned by the previous operation.</p> <p>When an operation requires asynchronous processing, all the subsequent operations MUST also be processed asynchronously. The server MUST send an interim response for all such operations as specified in section 3.3.4.2.</p> <p>When all operations are complete, the responses SHOULD be compounded into a single response to return to the client. If the responses are compounded, the server SHOULD set SMB2_FLAGS_RELATED_OPERATIONS in the Flags field of the SMB2 header of all responses except the first one. This indicates that the response was part of a compounded chain.</p>
2016/08/29	<p>In Section 3.3.5.5.3, Handling GSS-API Authentication, the processing rules for handling encryption have been changed from:</p> <p>...</p> <p>10. If Connection.Dialect belongs to the SMB 3.x dialect family and global EncryptData is TRUE, the server MUST do the following:</p> <ul style="list-style-type: none"> • Set the SMB2_SESSION_FLAG_ENCRYPT_DATA flag in the SessionFlags field of the SMB2 SESSION_SETUP Response. • Set Session.SigningRequired to FALSE. <p>...</p> <p>Changed to:</p> <p>...</p> <p>10. If global EncryptData is TRUE, the server MUST do the following:</p> <p>If Connection.ServerCapabilities includes SMB2_GLOBAL_CAP_ENCRYPTION or RejectUnencryptedAccess is TRUE,</p> <ul style="list-style-type: none"> • Set the SMB2_SESSION_FLAG_ENCRYPT_DATA flag in the SessionFlags field of the SMB2 SESSION_SETUP Response. • Set Session.SigningRequired to FALSE. • Set Session.EncryptData to TRUE.

Errata Published*	Description
	<p>Otherwise,</p> <ul style="list-style-type: none"> • Set Session.SigningRequired to TRUE. • Set Session.EncryptData to FALSE. <p>...</p>
2016/08/15	<p>In Section 3.3.5.5.3, Handling GSS-API Authentication, corrected the processing rules (changes in bold).</p> <p>Changed from:</p> <p>...</p> <p>9. If Connection.Dialect belongs to the SMB 3.x dialect family and SMB2_SESSION_FLAG_BINDING is not set in the Flags field of the request, the server MUST generate Channel.SigningKey by providing the following input values:</p> <p>...</p> <p>Changed to:</p> <p>...</p> <p>9. If Connection.Dialect belongs to the SMB 3.x dialect family and SMB2_SESSION_FLAG_BINDING is set in the Flags field of the request, the server MUST generate Channel.SigningKey by providing the following input values:</p> <p>...</p>
2016/08/15	<p>In Section 3.3.5.9.13, Handling the SMB2_CREATE_APP_INSTANCE_ID and SMB2_CREATE_APP_INSTANCE_VERSION Create Contexts, updated the processing rules.</p> <p>Added the following new paragraph:</p> <p>If Open.CreateGuid is NULL, and Open.TreeConnect.Share.IsCA is FALSE, the server SHOULD<291> close the open as specified in section 3.3.4.17.</p> <p><291> Section 3.3.5.9.13: Windows Server 2012 and Windows Server 2012 R2 servers do not close the open.</p>
2016/08/15	<p>In Section 3.3.5.5.3, Handling GSS-API Authentication, updated the processing rules.</p> <p>Changed from:</p> <p>12. If Connection.Dialect is "3.1.1" or Session.SigningRequired is TRUE, the server MUST sign the final session setup response using Session.SigningKey before sending it to the client. Otherwise, if Connection.Dialect is "3.0" or "3.0.2, and if the SMB2_SESSION_FLAG_BINDING is set in the Flags field of the request, the server MUST sign the response using Channel.SigningKey.</p> <p>Changed to:</p> <p>12. If the SMB2_SESSION_FLAG_IS_GUEST bit is not set in the SessionFlags field, and Session.IsAnonymous is FALSE, the server MUST sign the final session setup response before sending it to the client, as follows:</p> <p>If Connection.Dialect belongs to the 3.x dialect family, and SMB2_SESSION_FLAG_BINDING is set in the Flags field of the request, the server MUST use Channel.SigningKey.</p> <p>Otherwise, the server MUST use Session.SigningKey.</p>

Errata Published*	Description
	In the second bullet point in the list after step 15 Session.SessionKey has been changed to Session.SigningKey.

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[MS-SMBD]: SMB2 Remote Direct Memory Access (RDMA) Transport Protocol

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[MS-SPNG]: Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) Extension

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[MS-SQOS]: Storage Quality of Service Protocol

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[MS-SSTP]: Secure Socket Tunneling Protocol (SSTP)

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[MS-SWN]: Service Witness Protocol

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[MS-TCC]: Tethering Control Channel Protocol

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[MS-TDS]: Tabular Data Stream Protocol

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Errata below are for Protocol Document Version [V19.0 – 2016/07/14](#).

Errata Published*	Description
2016/08/29	<p>In Section 6, Appendix A: Product Behavior, product behavior notes <21>, <25>, <30>, and <31> are updated as follows.</p> <p>Note <21> is changed from: <21> Section 2.2.5.7: Column encryption is not supported by SQL Server. Changed to: <21> Section 2.2.5.7: Column encryption is not supported by SQL Server 7.0, SQL Server 2000, SQL Server 2005, SQL Server 2008, SQL Server 2008 R2, SQL Server 2012, and SQL Server 2014.</p> <p>Note <25> is changed from: <25> Section 2.2.6.4: Column encryption is not supported by SQL Server. Changed to: <25> Section 2.2.6.4: Column encryption is not supported by SQL Server 7.0, SQL Server 2000, SQL Server 2005, SQL Server 2008, SQL Server 2008 R2, SQL Server 2012, and SQL Server 2014.</p> <p>Note <30> is changed from: <30> Section 2.2.6.6: Column encryption is not supported by SQL Server. Changed to: <30> Section 2.2.6.6: Column encryption is not supported by SQL Server 7.0, SQL Server 2000, SQL Server 2005, SQL Server 2008, SQL Server 2008 R2, SQL Server 2012, and SQL Server 2014.</p> <p>Note <31> is changed from: <31> Section 2.2.7.4: Column encryption is not supported by SQL Server. Changed to: <31> Section 2.2.7.4: Column encryption is not supported by SQL Server 7.0, SQL Server 2000, SQL Server 2005, SQL Server 2008, SQL Server 2008 R2, SQL Server 2012, and SQL Server 2014.</p>

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[MS-TLSP]: Transport Layer Security (TLS) Profile

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[MS-TPMVSC]: Trusted Platform Module (TPM) Virtual Smart Card Management Protocol

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[MS-TSCH]: Task Scheduler Service Remoting Protocol

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[MS-TSGU]: Terminal Services Gateway Server Protocol

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Errata below are for Protocol Document Version [V36.0 - 2016/07/14](#).

Errata Published*	Description
2016/09/12	<p>In several sections, updated the msgBytes range in the TSG_PACKET_STRING_MESSAGE structure.</p> <p>In Section 2.2.9.2.1.9.1.1, TSG_PACKET_STRING_MESSAGE, changed from:</p> <p>The TSG_PACKET_STRING_MESSAGE structure contains either the Consent Signing Message or the Administrative Message that is being sent from the RDG server to the client.</p> <pre>typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory; long isConsentMandatory; [range(0,n)] unsigned long msgBytes; ... }</pre> <p>Changed to:</p> <p>The TSG_PACKET_STRING_MESSAGE structure contains either the Consent Signing Message or the Administrative Message that is being sent from the RDG server to the client.</p> <pre>typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory; long isConsentMandatory; [range(0,65536)] unsigned long msgBytes; ... }</pre> <p>In Section 4.1.1, Normal Scenario, changed from:</p> <p>...</p> <p>Where the servicemessage is set as follows.</p> <pre>typedef struct _TSG_PACKET_STRING_MESSAGE</pre>

Errata Published*	Description
	<pre> { long isDisplayMandatory = 1; long isConsentMandatory = 1; [range(0, 12288)] unsigned long msgBytes = 4; ... Changed to: ... Where the servicemessage is set as follows. typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory = 1; long isConsentMandatory = 1; [range(0, 65536)] unsigned long msgBytes = 4; ... In Section 4.1.2, Pluggable Authentication Scenario with Consent Message Returned, changed from: ... Where the consentMessage is set as follows. typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory = 1; long isConsentMandatory = 1; [range(0, 12288)] unsigned long msgBytes = 7; ... Changed to: ... Where the consentMessage is set as follows. typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory = 1; long isConsentMandatory = 1; [range(0, 65536)] unsigned long msgBytes = 7; ... In Section 6, Appendix A: Full IDL, changed from: ... typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory; long isConsentMandatory; </pre>

Errata Published*	Description
	<pre> [range(0,12288)] unsigned long msgBytes; ... Changed to: ... typedef struct _TSG_PACKET_STRING_MESSAGE { long isDisplayMandatory; long isConsentMandatory; [range(0,65536)] unsigned long msgBytes; ... </pre>

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[MS-TSTS]: Terminal Services Terminal Server Runtime Interface Protocol

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[MS-UCODEREF]: Windows Protocols Unicode Reference

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[MS-WCCE]: Windows Client Certificate Enrollment Protocol

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[MS-WCFESAN]: WCF-Based Encrypted Server Administration and Notification Protocol

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[MS-WDSMT]: Windows Deployment Services Multicast Transport Protocol

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[MS-WFDAA]: Wi-Fi Direct (WFD) Application to Application Protocol

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[MS-WFDPE]: Wi-Fi Display Protocol Extension

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[MS-WKST]: Workstation Service Remote Protocol

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[MS-WPO]: Windows Protocols Overview

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[MS-WMF]: Windows Metafile Format

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[MS-WSDS]: WS-Enumeration Directory Services Protocol Extensions

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Errata below are for Protocol Document Version [V9.0 - 2016/07/14](#).

Errata Published*	Description
2016/08/15	<p>In Section 3, Protocol Details, updated that the server implementation of this protocol can limit the maximum validity of an enumeration context by including the following note at the end of the section:</p> <p>Note The server implementation of the WS-Enumeration: Directory Services Protocol Extensions MAY<2> limit the maximum validity of an enumeration context. This limit, if implemented, applies across the Renew operation (section 3.1.4.3).</p> <p><2> Section 3: Microsoft implementations of WS-Enumeration: Directory Services Protocol Extensions limit the validity of an enumeration context to 30 minutes by default (defined as MaxEnumContextExpiration in the configuration settings).</p>
2016/08/15	<p>In several sections, added that an optional ad:controls element can also be passed to the pull request.</p> <p>In Section 1.2.1, Normative References, included the following reference: [MS-WSPELD] Microsoft Corporation, "WS-Transfer and WS-Enumeration Protocol Extension for Lightweight Directory Access Protocol v3 Controls</p> <p>In Section 3.1.4.2, wsen:Pull, included the following paragraph at the end of the section: An optional ad:controls element can also be passed to the pull request, according to the requirements in [MS-WSPELD] section 2.2.3.1.</p> <p>In Section 7, Appendix B: Schema, changed from:</p> <pre>.Section <!-- Pull request --> ..Pull (element) .</pre> <p>Changed to:</p> <pre><!--. . . .Other elements from [MS-WSPELD] schema in Appendix B: .. ad:Controls (element) . . .--></pre>

Errata Published*	Description
	<pre> <!--Extended PULL [WSENUM] request--> <xsd:element name="Pull"> <xsd:complexType> <xsd:sequence> <xsd:element name="EnumerationContext" type="tns:EnumerationContextType" /> <xsd:element name="MaxTime" type="tns:PositiveDurationType" minOccurs="0" /> <xsd:element name="MaxElements" type="xsd:positiveInteger" minOccurs="0" /> <xsd:element name="MaxCharacters" type="xsd:positiveInteger" minOccurs="0" /> <xsd:element ref="ad:Controls" minOccurs="0" maxOccurs="1" /> </xsd:sequence> </xsd:complexType> </xsd:element> </pre>
2016/08/01	<p>In Section 7, Appendix B: Schema, updated the schema with adddata elements and changed instances of <xs: to <xsd:.</p> <p>Changed from:</p> <pre> <xsd:schema xmlns:ad="http://schemas.microsoft.com/2008/1/ActiveDirectory" attributeFormDefault="unqualified" elementFormDefault="qualified" targetNamespace="http://schemas.microsoft.com/2008/1/ActiveDirectory" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> </pre> <p>Changed to:</p> <pre> <xsd:schema xmlns:ad="http://schemas.microsoft.com/2008/1/ActiveDirectory" xmlns:addata="http://schemas.microsoft.com/2008/1/ActiveDirectory/Data" attributeFormDefault="unqualified" elementFormDefault="qualified" targetNamespace="http://schemas.microsoft.com/2008/1/ActiveDirectory" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> </pre> <p>Changed from:</p> <pre> <xsd:schema targetNamespace="http://schemas.xmlsoap.org/ws/2004/09/enumeration" xmlns:wse="http://schemas.xmlsoap.org/ws/2004/09/enumeration" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing" xmlns:xsd="http://www.w3.org/2001/XMLSchema" </pre>

Errata Published*	Description
	<pre> xmlns:adlq="http://schemas.microsoft.com/2008/1/ActiveDirectory/Dialect/LdapQuery" xmlns:ad="http://schemas.microsoft.com/2008/1/ActiveDirectory" elementFormDefault="qualified" blockDefault="#all"> Changed to: <xsd:schema targetNamespace="http://schemas.xmlsoap.org/ws/2004/09/enumeration" xmlns:wsen="http://schemas.xmlsoap.org/ws/2004/09/enumeration" xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:adlq="http://schemas.microsoft.com/2008/1/ActiveDirectory/Dialect/LdapQuery" xmlns:ad="http://schemas.microsoft.com/2008/1/ActiveDirectory" xmlns:addata="http://schemas.microsoft.com/2008/1/ActiveDirectory/Data" elementFormDefault="qualified" blockDefault="#all"> Changed from: <xs:complexType name="FilterType"> <xs:sequence> <xs:element minOccurs="0" maxOccurs="1" ref="adlq:LdapQuery" /> </xs:sequence> <xs:attribute name="Dialect" fixed="http://schemas.microsoft.com/2008/1/ActiveDirectory/Dialect/LdapQuery"/> </xs:complexType> Changed to: <xsd:complexType name="FilterType"> <xsd:sequence> <xsd:element minOccurs="0" maxOccurs="1" ref="adlq:LdapQuery" /> </xsd:sequence> <xsd:attribute name="Dialect" fixed="http://schemas.microsoft.com/2008/1/ActiveDirectory/Dialect/LdapQuery"/> </xsd:complexType> Changed from: <xs:element name="Filter" type="wsen:FilterType" minOccurs="0" maxOccurs="1" /> Changed to: <xsd:element name="Filter" type="wsen:FilterType" minOccurs="0" maxOccurs="1" /> </pre>

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[MS-WSMV]: Web Services Management Protocol Extensions for Windows Vista

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[MS-WSP]: Windows Search Protocol

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[MS-WSUSAR]: Windows Server Update Services: Administrative API Remoting Protocol

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[MS-WSUSSS]: Windows Update Services: Server-Server Protocol

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[MS-WUSP]: Windows Update Services: Client-Server Protocol

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[MS-XCEP]: X.509 Certificate Enrollment Policy Protocol

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