April 17-18, 2024
sambaXP Conference

Microsoft Interoperability Track
Introduction to Microsoft’s Commitment to Interoperability
sambaXP 2024, April 17-18

Hagit Galatzer
Senior Program Management, Microsoft
Agenda

• Who are we?
• Interop program guidelines
• The Open Specification documents
• Developers test tools
• Support channels and resources
• What’s next today?
The Interoperability Team - Who are we?

Protocols
Product Groups

Interop Team

Test Tools Eng.
Support
Content

Windows
Microsoft Office
SQL Server
Exchange
Guiding Principles – Interop Program

Ensure developers have access to the interoperability information, tools and resources to successfully develop for Microsoft’s products and platforms.

We love our developers!

Docs  Support  Tools  Events
Open engagement on a global basis

Up to date and published regularly

Experienced support team

Building Microsoft interoperability ecosystem
Program Scope

- **Windows Protocols** related to file sharing, remote desktop, Active Directory, and more...
- **Office Protocols** covering Exchange Server, SharePoint Server, and Office Clients
- **SQL Protocols** used by SQL server to interop or communicate with other Microsoft products
- **Office File Formats** - Binary file formats, OOXML, and Office Standards
Through the Open Specifications program, Microsoft is helping developers open new opportunities by making technical documents related to interoperability for certain popular Microsoft products available to view and download at no charge.

Although the Open Specifications technical documents are freely available, many of them include patented inventions. Some of these patents are available at no charge under the Open Specifications Promise or the Microsoft Community Promise. The remaining patents are available through various licensing programs. For more information, please visit the Microsoft Open Specifications Dev Center or send an email message to the IP Licensing Team.
[MS-SMB2]: Server Message Block (SMB) Protocol Versions 2 and 3

Published Version

<table>
<thead>
<tr>
<th>Date</th>
<th>Protocol Revision</th>
<th>Revision Class</th>
<th>Downloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/8/2024</td>
<td>75.0</td>
<td>Major</td>
<td>PDF</td>
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Previous Versions

<table>
<thead>
<tr>
<th>Date</th>
<th>Protocol Revision</th>
<th>Revision Class</th>
<th>Downloads</th>
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<tr>
<td>3/05/2024</td>
<td>72.0</td>
<td>Major</td>
<td>PDF</td>
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<td>5/11/2024</td>
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<td>PDF</td>
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<td>2/26/2024</td>
<td>70.0</td>
<td>Major</td>
<td>PDF</td>
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<tr>
<td>1/18/2024</td>
<td>69.0</td>
<td>Major</td>
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What’s New and Changed

This section provides descriptions of and links to the Windows technical documents that have been revised to reflect the functionality of the latest product version.

New Documentation

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
<th>Release date</th>
</tr>
</thead>
<tbody>
<tr>
<td>[MS-RDFO] Remote Desktop Protocol Core Input Virtual Channel Extension</td>
<td>Specifies the Remote Desktop Protocol Core Input Virtual Channel Extension, which enables remoting of keyboard and mouse pointer input over the UDP transport. This is an extension to the Basic Connectivity and Graphics Remoting Protocol.</td>
<td>September 20, 2023</td>
</tr>
<tr>
<td>[MS-RDFO] Remote Desktop Protocol Location Channel Extension</td>
<td>Specifies the Remote Desktop Protocol Location Channel Extension, which adds the ability to redirect the client’s location (latitude, longitude and altitude) to a server so that location-based services running in a user session can provide a more contextualized experience where possible.</td>
<td>September 20, 2023</td>
</tr>
<tr>
<td>[MS-RDFO] Remote Desktop Protocol Mouse Cursor Virtual Channel Extension</td>
<td>Specifies the Remote Desktop Protocol Mouse Cursor Virtual Channel Extension enables remoting of mouse cursor input over the UDP transport. This is an extension to the Basic Connectivity and Graphics Remoting Protocol.</td>
<td>September 20, 2023</td>
</tr>
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</table>

Service Releases

The following documents were updated for service releases after the April 2022 release for Windows 11, version 22H2 operating system.

<table>
<thead>
<tr>
<th>Specifications with service release updates</th>
<th>Description</th>
<th>Release date</th>
</tr>
</thead>
<tbody>
<tr>
<td>[MS-SMB2] Server Message Block (SMB) Protocol Versions 2 and 3</td>
<td>This document has been updated as follows: The SMB2_GLOBAL_CAP_ENCRYPTION capability is only valid for SMB 3.0 and 3.02 dialects and when AES-128-CCM cipher is supported.</td>
<td>April 8, 2024</td>
</tr>
<tr>
<td>[MS-RDFA] Remote Desktop Protocol Authentication Restriction Virtual Channel</td>
<td>This document has been updated as follows: Changed TGSREP and AS-REP FAILURE to zero in KERB_RSASv1_DATA and UnpackkDcReplyBody structures for RemoteKerbUnpackkDcReplyBody messages. Added tables of previous values to product notes.</td>
<td>March 25, 2024</td>
</tr>
</tbody>
</table>
The Diff

- Download the diff file
- Search for “Updated Section”
- See the changes in green

1.2.2 (Updated Section) Informative References


[MS-PCCRR] Microsoft Corporation, “Peer Content Caching and Retrieval: Retrieval Protocol”.

[MS-SQOS] Microsoft Corporation, “Storage Quality of Service Protocol”.


Developer Tools & Resources

Comprehensive portfolio of developer tools available to you!

Scenarios

Client Implementation
Application connecting to a Microsoft Server

Server Implementation
Client connecting to a Microsoft Server

Man-in-the-Middle
Application manipulating traffic over the wire

Tools & Resources

Office Protocol Test Suites
Network Parsers
Sample code

Windows Protocol Test Suites
Solution Accelerators
Informative Content
Test Driven Quality Assurance

1 Open Specification Review
- Ambiguity Review
- Simulation of the implementation Process

2 Requirement Analysis
- Normative language
- Requirement Extraction

3 Test Suite Development
- Requirements become Test Cases
- Groups of Test Cases become Scenarios

... this method MUST return a SOAP fault with the specified error code.

```
3.1.4.9 CreateWeb

This operation is used to create a new subsite of the current site (2).

<wsdl:operation name="CreateWeb">
  <wsdl:input message="tns:CreateWebSoapIn" />
  <wsdl:output message="tns:CreateWebSoapOut" />
</wsdl:operation>

The client sends a CreateWebSoapIn request message and the server responds with a CreateWebSoapOut response message upon successful completion of creating the subsite. In the case that any of the error conditions specified by the following table occur, this method MUST return a SOAP fault with the specified error code.

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x800700b7</td>
<td>The location specified by CreateWeb/url is already in use.</td>
</tr>
</tbody>
</table>
```
**SharePoint**
- MS-LISTSWS
- MS-VERSS
- MS-SITESS
- MS-DWSS
- MS-ADMINS
- MS-MEETS
- MS-OUTSPS
- MS-WDVMODUU
- MS-WEBSS
- MS-WWSP
- MS-AUTHWS
- MS-SHDACCWS
- MS-CPSWS
- MS-WSSREST
- MS-OFFICIALFILE
- MS-COPYS
- MS-VIEWSS

**File Sync & WOPI**
- MS-FSSHTTP
- MS-FSSHTTPB
- MS-FSSHTTPD
- MS-WOPI
- **MS-ONESTORE**

**EWS**
- MS-OXWSATT
- MS-OXWSBTRF
- MS-OXWSCONT
- MS-OXWSSCORE
- MS-OXWSFOLD
- MS-OXWSMSG
- MS-OXWSMTGS
- MS-OXWSSYNC
- MS-OXWSTASK
- MS-OXWSITEMID

**EAS**
- MS-ASAIRS
- MS-ASCAL
- MS-ASWBXML
- MS-ASCNTC
- MS-ASCON
- MS-ASDOC
- MS-ASEMAIL
- MS-ASHTTP
- MS-ASNOTE
- MS-ASPROV
- MS-ASRM
- MS-ASTASK
- MS-ASCMD
- MS-ASDTYPE

**MAPIHTTP**
- MS-OXCFOLD
- MS-OXCFXSICS
- MS-OXCMAPIHTTP
- MS-OXCMSG
- MS-OXCNOTIF
- MS-OXCPERM
- MS-OXCPRPT
- MS-OXCRPSC
- MS-OXCSRTOR
- MS-OXCTABL
- MS-OXNSPI
- MS-OXORULE
<table>
<thead>
<tr>
<th>File Server</th>
<th>RDP</th>
<th>Kerberos</th>
<th>Active Directory</th>
<th>ADFS Proxy &amp; Web Application Proxy</th>
<th>Brand Cache</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-SMB2</td>
<td>MS-RDPBCGR</td>
<td>MS-KILE</td>
<td>MS-ADA1</td>
<td>MS-ADFSPIP</td>
<td>MS-PCCRTP</td>
</tr>
<tr>
<td>MS-DFSC</td>
<td>MS-RDPEDISP</td>
<td>MS-KKDCP</td>
<td>MS-ADA2</td>
<td></td>
<td>MS-PCCRR</td>
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<tr>
<td>MS-SWN</td>
<td>MS-RDPEDYC</td>
<td>MS-PAC</td>
<td>MS-ADA3</td>
<td></td>
<td>MS-PCHC</td>
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<tr>
<td>MS-FSRVP</td>
<td>MS-RDPEGFX</td>
<td></td>
<td>MS-ADLS</td>
<td></td>
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<td>MS-FSA</td>
<td>MS-RDPEGT</td>
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<td>MS-ADSC</td>
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<td>MS-FSCC</td>
<td>MS-RDPEI</td>
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<td>MS-RSVD</td>
<td>MS-RDPEMT</td>
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<td>MS-APDS</td>
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<td>MS-SQOS</td>
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<td>MS-RDPEUDP</td>
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<td>MS-RDPEUSB</td>
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<td>[MS-RDPBCGR</td>
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<td>MS-RDPELE</td>
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SMB Direct

ADOD

https://github.com/microsoft/WindowsProtocolTestSuites
Open Specifications Support

Dedicated Support Team based in the USA, multiple Escalation Engineers offering complimentary interop support for Windows and Office protocol and file format.

Email: DocHelp@Microsoft.com for direct, fast and private communication to the support team

Forums: aka.ms/dochelp - anonymous posting and community driven involvement. Constantly monitored by the support team.

GitHub: Issues are publicly tracked and contributed to by support team on open-source projects
Online Resources

Support: dochelp@microsoft.com
Forums: aka.ms/dochelp
Events: https://interopevents.com

GitHub Repos

Protocol Test Suites
  https://github.com/OfficeDev/Interop-TestSuites
  https://github.com/microsoft/WindowsProtocolTestSuites

Fiddler Inspectors
  https://github.com/OfficeDev/Office-Inspectors-for-Fiddler
Next on the Microsoft Interoperability Track

- **Obaro Ogbo**
  SENIOR SOFTWARE ENGINEER
  - File Sharing Test Suites Updates and Overview of SMB2 Dissectors on Wireshark

- **Adedeji Adeloye**
  SOFTWARE ENGINEER
  - SMB Updates and Product Group Q&A

- **Ned Pyle**
  PRINCIPAL PROGRAM MANAGER
  - Teams Interoperability

- **Vladimir Petter**
  PRINCIPAL SOFTWARE ENG LEAD

- **Tarun Chopra**
  SENIOR SOFTWARE ENGINEER

- **Andrew Davidoff**
  SENIOR SOFTWARE ENGINEER
  - Exchange Server Protocols Overview
We want to hear from you!

interopdevevents@microsoft.com

And hope to see you in our future events:
SNIA SDC SMB3 IO Lab, Sept 16-18

Thank you!
Questions?
Demo

Speaker name
Section title