Introduction to Microsoft’s Commitment to Interoperability
sambaXP 2023, May 10-11

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 next today?
A message from our team 😊
The Interoperability Team - Who are we?

Protocols
Product Groups

Interop Team

Test Tools Eng.
Support
Content

Windows
Microsoft Office
SQL Server
Exchange
Guiding Principles

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
Interoperability Initiatives

- **Events**: >90 Events
- **Docs**: >900 Open Specifications, >110k Pages
- **Support**: 24/7 Support, $0 Support Fee, 10 Engineers
- **Tools**: 11+ New releases this past year, >200 Specs have an associated tool/test

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, OOXXML, and Office Standards
Open Specifications

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 website or send an email message to the IP Licensing Team.

**Protocols**
Microsoft publishes technical documents for protocols that are implemented in Windows client (including .NET Framework) and Windows Server (collectively Windows), Office, SharePoint Products and Technologies, Exchange Server, and Microsoft SQL Server and are used to communicate with other Microsoft software products.

**Computer Languages**
Microsoft publishes technical documents for the VBA programming language and Extensible Application Markup Language (XAML).

**Standards Support**

**Data Portability**
Microsoft publishes technical documents for the file formats created by Word, Excel, PowerPoint, and Outlook and by SQL Server.
# [MS-SMB2]: Server Message Block (SMB) Protocol Versions 2 and 3

Articled on: 02/28/2023

Specifies the Server Message Block (SMB) Protocol Versions 2 and 3, which support the sharing of file and print resources between machines and extend the concepts from the Server Message Block Protocol.

This page and associated content may be updated frequently. We recommend you subscribe to the RSS feed to receive update notifications.

## Published Version

<table>
<thead>
<tr>
<th>Date</th>
<th>Protocol Revision</th>
<th>Revision Class</th>
<th>Downloads</th>
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<tr>
<td>3/27/2023</td>
<td>67.0</td>
<td>Major</td>
<td>PDF, DOCX, Excel, Diff</td>
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Click here to download a zip file of all PDF files for Windows Protocols.

## Previous Versions

<table>
<thead>
<tr>
<th>Date</th>
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<th>Revision Class</th>
<th>Downloads</th>
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<td>4/29/2022</td>
<td>66.0</td>
<td>Major</td>
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<td>10/5/2021</td>
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<tr>
<td>6/25/2021</td>
<td>64.0</td>
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Figure 2: Relationship to other protocols
2.2.3 SMB2 NEGOTIATE Request

The SMB2 NEGOTIATE Request packet is used by the client to notify the server what dialects of the SMB 2 Protocol the client understands. This request is composed of an SMB2 header, as specified in section 2.2.1, followed by this request structure.

<table>
<thead>
<tr>
<th>0 1 2 3 4 5 6 7 8 9 1 0 1 2 3 4 5 6 7 8 9 3 0 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>StructureSize</td>
</tr>
<tr>
<td>DialectCount</td>
</tr>
<tr>
<td>SecurityMode</td>
</tr>
<tr>
<td>Reserved</td>
</tr>
<tr>
<td>Capabilities</td>
</tr>
<tr>
<td>ClientGuid</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>(NegotiateContextOffset, NegotiateContextCount, Reserved2)/ClientStartTime</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>Dialects (variable)</td>
</tr>
<tr>
<td>...</td>
</tr>
<tr>
<td>Padding (variable)</td>
</tr>
<tr>
<td>...</td>
</tr>
</tbody>
</table>
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 operation is used to create a new subsite of the current site. (2)<14>

```
<wadisoperation name="CreateWeb"/>
<wadilinput message="tns:CreateWebSoapIn" />
<wadiloutput message="tns:CreateWebSoapOut" />
```

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>

---

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

---

1/29

Web Application Open Platform Interface Protocol
Copyright © 2017 Microsoft Corporation
Released: December 12, 2017
<table>
<thead>
<tr>
<th>SharePoint</th>
<th>File Sync &amp; WOPI</th>
<th>EWS</th>
<th>EAS</th>
<th>MAPIHTTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-LISTSWS</td>
<td>MS-FSSHTTP</td>
<td>MS-OXWSATT</td>
<td>MS-ASAIRS</td>
<td>MS-OXCFOLD</td>
</tr>
<tr>
<td>MS-VERSS</td>
<td>MS-FSSHTTPB</td>
<td>MS-OXWSBTRF</td>
<td>MS-ASCAL</td>
<td>MS-OXCFXICS</td>
</tr>
<tr>
<td>MS-SITESS</td>
<td>MS-FSSHTTPPD</td>
<td>MS-OXWSCONT</td>
<td>MS-ASWBXML</td>
<td>MS-OXCMAPIHTTP</td>
</tr>
<tr>
<td>MS-DWSS</td>
<td>MS-WOPI</td>
<td>MS-OXWSCORE</td>
<td>MS-ASCNTC</td>
<td>MS-OXCMMSG</td>
</tr>
<tr>
<td>MS-ADMINS</td>
<td>MS-ONESTORE</td>
<td>MS-OXWSFOLD</td>
<td>MS-ASCNDC</td>
<td>MS-OXCNOTIF</td>
</tr>
<tr>
<td>MS-MEETS</td>
<td></td>
<td>MS-OXWSMSG</td>
<td>MS-ASDOC</td>
<td>MS-OXCPERM</td>
</tr>
<tr>
<td>MS-OUTSPS</td>
<td></td>
<td>MS-OXWSMTGS</td>
<td>MS-ASEND</td>
<td>MS-OXCPRPT</td>
</tr>
<tr>
<td>MS-WDVMODUU</td>
<td></td>
<td>MS-OXWSSYNC</td>
<td>MS-ASHTTP</td>
<td>MS-OXCRPC</td>
</tr>
<tr>
<td>MS-WWSP</td>
<td></td>
<td>MS-OXWSTASK</td>
<td>MS-ASNOTE</td>
<td>MS-OXCROPS</td>
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<tr>
<td>MS-AUTHWS</td>
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<td>MS-ASPROV</td>
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<td>MS-VIEWSS</td>
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</table>

https://github.com/OfficeDev/Interop-TestSuites
### File Server
- MS-SMB2
- MS-DFSC
- MS-SWN
- MS-FSRVP
- MS-FSA
- MS-FSCC
- MS-RSVD
- MS-SQOS

### RDP
- MS-RDPBCGR
- MS-RDPEDISP
- MS-RDPEDYC
- MS-RDPEGFX
- MS-RDPEGT
- MS-RDPEI
- MS-RDPEMT
- MS-RDPEUDP
- MS-RDPEUSB
- MS-RDPEVOR
- MS-RDPRFX
- [MS-RDPBCGR
- MS-RDPEDYC
- MS-RDPEMT
- MS-RDPELE

### Kerberos
- MS-KILE
- MS-KKDCP
- MS-PAC

### SMB Direct
- MS-SMBD
- MS-SMB2

### ADOD
- MS-ADOD

### Active Directory
- MS-ADA1
- MS-ADA2
- MS-ADA3
- MS-ADLS
- MS-ADSC
- MS-ADTS
- MS-APDS
- MS-DRSR
- MS-FRS2
- MS-LSAD
- MS-LSAT
- MS-SAMR
- MS-NRPC

### ADFS Proxy & Web Application Proxy
- MS-ADFSPIP

### Brand Cache
- MS-PCCRTP
- MS-PCCRR
- MS-PCHC
- MS-PCCRC
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


Use the Capabilities of Azure Artificial Intelligence with the Open XML SDK to Protect Personally Identifiable Information.

File Sharing test suites overview and demo

SMB3.1.1 POSIX Extensions and Accessing files remotely from the smallest to the largest devices (and the cloud): SMB3.1.1 improvements to the Linux client.
We want to hear from you!
interopdevevents@microsoft.com

And hope to see you in our future events:
SNIA SDC SMB3 IO Lab, Sept 18-21
Redmond, samba SMB3 IO Lab, Sept 26-28

Thank you!
Questions?