

[MS-ESP]: Excel Web Services Protocol

Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](#) or the [Community Promise](#). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.
- **Fictitious Names.** The example companies, organizations, products, domain names, email addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

Reservation of Rights. All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

Tools. The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

Revision Summary

Date	Revision History	Revision Class	Comments
04/04/2008	0.1		Initial Availability
06/27/2008	1.0		Revised and edited technical content
10/06/2008	1.01		Revised and edited technical content
12/12/2008	1.02		Revised and edited technical content
07/13/2009	1.03	Major	Revised and edited the technical content
08/28/2009	1.04	Editorial	Revised and edited the technical content
11/06/2009	1.05	Editorial	Revised and edited the technical content
02/19/2010	2.0	Minor	Updated the technical content
03/31/2010	2.01	Editorial	Revised and edited the technical content
04/30/2010	2.02	Editorial	Revised and edited the technical content
06/07/2010	2.03	Editorial	Revised and edited the technical content
06/29/2010	2.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	3.0	Major	Significantly changed the technical content.
04/11/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
09/12/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.

Date	Revision History	Revision Class	Comments
10/08/2012	3.0.1	Editorial	Changed language and formatting in the technical content.
02/11/2013	3.0.1	No change	No changes to the meaning, language, or formatting of the technical content.
07/30/2013	3.0.1	No change	No changes to the meaning, language, or formatting of the technical content.
11/18/2013	3.1	Minor	Clarified the meaning of the technical content.
02/10/2014	3.1	No change	No changes to the meaning, language, or formatting of the technical content.
04/30/2014	3.2	Minor	Clarified the meaning of the technical content.
07/31/2014	3.3	Minor	Clarified the meaning of the technical content.
10/30/2014	3.3	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction	13
1.1 Glossary	13
1.2 References	15
1.2.1 Normative References	15
1.2.2 Informative References	16
1.3 Overview	16
1.3.1 Published Items and Results Returned by this Protocol	17
1.4 Relationship to Other Protocols	17
1.5 Prerequisites/Preconditions	17
1.6 Applicability Statement	18
1.7 Versioning and Capability Negotiation	18
1.8 Vendor-Extensible Fields	18
1.9 Standards Assignments	18
2 Messages	19
2.1 Transport	19
2.2 Common Message Syntax	19
2.2.1 Namespaces	19
2.2.2 Messages	19
2.2.3 Elements	20
2.2.4 Complex Types	20
2.2.4.1 ArrayOfAnyType	20
2.2.4.2 ArrayOfStatus	20
2.2.4.3 ArrayOfString	21
2.2.4.4 RangeCoordinates	21
2.2.4.5 Status	22
2.2.4.6 TypeExporter	22
2.2.5 Simple Types	22
2.2.5.1 CellError	23
2.2.5.2 RangeReference	23
2.2.5.3 SheetName	24
2.2.5.4 WorkbookType	24
2.2.6 Attributes	25
2.2.7 Groups	25
2.2.8 Attribute Groups	25
2.2.9 Common Data Structures	25
2.2.9.1 Faults	25
2.2.9.2 Common List of Subcodes	35
3 Protocol Details	37
3.1 Server Details	38
3.1.1 Abstract Data Model	38
3.1.2 Timers	38
3.1.2.1 Session Timeout	38
3.1.2.2 Request Timeout	38
3.1.3 Initialization	38
3.1.4 Message Processing Events and Sequencing Rules	38
3.1.4.1 Calculate	40
3.1.4.1.1 Messages	41
3.1.4.1.1.1 CalculateSoapIn	41

3.1.4.1.1.2 CalculateSoapOut	41
3.1.4.1.2 Elements.....	41
3.1.4.1.2.1 Calculate	41
3.1.4.1.2.2 CalculateResponse.....	42
3.1.4.1.3 Complex Types	42
3.1.4.1.4 Simple Types.....	42
3.1.4.1.5 Attributes.....	42
3.1.4.1.6 Groups.....	42
3.1.4.1.7 Attribute Groups	42
3.1.4.2 CalculateA1.....	42
3.1.4.2.1 Messages	43
3.1.4.2.1.1 CalculateA1SoapIn.....	43
3.1.4.2.1.2 CalculateA1SoapOut	44
3.1.4.2.2 Elements.....	44
3.1.4.2.2.1 CalculateA1	44
3.1.4.2.2.2 CalculateA1Response	44
3.1.4.2.3 Complex Types	45
3.1.4.2.4 Simple Types.....	45
3.1.4.2.5 Attributes.....	45
3.1.4.2.6 Groups.....	45
3.1.4.2.7 Attribute Groups	45
3.1.4.3 CalculateWorkbook	45
3.1.4.3.1 Messages	46
3.1.4.3.1.1 CalculateWorkbookSoapIn	46
3.1.4.3.1.2 CalculateWorkbookSoapOut	46
3.1.4.3.2 Elements.....	46
3.1.4.3.2.1 CalculateWorkbook	46
3.1.4.3.2.2 CalculateWorkbookResponse	47
3.1.4.3.3 Complex Types	47
3.1.4.3.4 Simple Types.....	47
3.1.4.3.4.1 CalculateType	47
3.1.4.3.5 Attributes.....	48
3.1.4.3.6 Groups.....	48
3.1.4.3.7 Attribute Groups	48
3.1.4.4 CancelRequest	48
3.1.4.4.1 Messages	49
3.1.4.4.1.1 CancelRequestSoapIn	49
3.1.4.4.1.2 CancelRequestSoapOut	49
3.1.4.4.2 Elements.....	49
3.1.4.4.2.1 CancelRequest	49
3.1.4.4.2.2 CancelRequestResponse	50
3.1.4.4.3 Complex Types	50
3.1.4.4.4 Simple Types.....	50
3.1.4.4.5 Attributes.....	50
3.1.4.4.6 Groups.....	50
3.1.4.4.7 Attribute Groups	50
3.1.4.5 CloseWorkbook	50
3.1.4.5.1 Messages	51
3.1.4.5.1.1 CloseWorkbookSoapIn	51
3.1.4.5.1.2 CloseWorkbookSoapOut	51
3.1.4.5.2 Elements.....	51
3.1.4.5.2.1 CloseWorkbook	51
3.1.4.5.2.2 CloseWorkbookResponse	52

3.1.4.5.3	Complex Types	52
3.1.4.5.4	Simple Types.....	52
3.1.4.5.5	Attributes.....	52
3.1.4.5.6	Groups.....	52
3.1.4.5.7	Attribute Groups	52
3.1.4.6	EnsureWorkbookModel	52
3.1.4.6.1	Messages	53
3.1.4.6.1.1	EnsureWorkbookModelSoapIn	53
3.1.4.6.1.2	EnsureWorkbookModelSoapOut	53
3.1.4.6.2	Elements.....	53
3.1.4.6.2.1	EnsureWorkbookModel	53
3.1.4.6.2.2	EnsureWorkbookModelResponse.....	54
3.1.4.6.3	Complex Types	54
3.1.4.6.3.1	WorkbookModelInfo	54
3.1.4.6.4	Simple Types.....	55
3.1.4.6.5	Attributes.....	55
3.1.4.6.6	Groups.....	55
3.1.4.6.7	Attribute Groups	55
3.1.4.7	GetApiVersion	55
3.1.4.7.1	Messages	55
3.1.4.7.1.1	GetApiVersionSoapIn	56
3.1.4.7.1.2	GetApiVersionSoapOut	56
3.1.4.7.2	Elements.....	56
3.1.4.7.2.1	GetApiVersion	56
3.1.4.7.2.2	GetApiVersionResponse.....	56
3.1.4.7.3	Complex Types	57
3.1.4.7.4	Simple Types.....	57
3.1.4.7.5	Attributes.....	57
3.1.4.7.6	Groups.....	57
3.1.4.7.7	Attribute Groups	57
3.1.4.8	GetCell	57
3.1.4.8.1	Messages	58
3.1.4.8.1.1	GetCellSoapIn	58
3.1.4.8.1.2	GetCellSoapOut.....	58
3.1.4.8.2	Elements.....	58
3.1.4.8.2.1	GetCell.....	58
3.1.4.8.2.2	GetCellResponse.....	59
3.1.4.8.3	Complex Types	59
3.1.4.8.4	Simple Types.....	59
3.1.4.8.5	Attributes.....	60
3.1.4.8.6	Groups.....	60
3.1.4.8.7	Attribute Groups	60
3.1.4.9	GetCellA1	60
3.1.4.9.1	Messages	61
3.1.4.9.1.1	GetCellA1SoapIn	61
3.1.4.9.1.2	GetCellA1SoapOut	61
3.1.4.9.2	Elements.....	61
3.1.4.9.2.1	GetCellA1	61
3.1.4.9.2.2	GetCellA1Response.....	62
3.1.4.9.3	Complex Types	62
3.1.4.9.4	Simple Types.....	62
3.1.4.9.5	Attributes.....	62
3.1.4.9.6	Groups.....	63

3.1.4.9.7	Attribute Groups	63
3.1.4.10	GetChartImageUrl.....	63
3.1.4.10.1	Messages	63
3.1.4.10.1.1	GetChartImageUrlSoapIn.....	63
3.1.4.10.1.2	GetChartImageUrlSoapOut.....	63
3.1.4.10.2	Elements.....	64
3.1.4.10.2.1	GetChartImageUrl.....	64
3.1.4.10.2.2	GetChartImageUrlResponse	64
3.1.4.10.3	Complex Types	65
3.1.4.10.3.1	Size	65
3.1.4.10.4	Simple Types	65
3.1.4.10.5	Attributes.....	65
3.1.4.10.6	Groups.....	65
3.1.4.10.7	Attribute Groups.....	65
3.1.4.11	GetPublishedItemNames	65
3.1.4.11.1	Messages	66
3.1.4.11.1.1	GetPublishedItemNamesSoapIn.....	66
3.1.4.11.1.2	GetPublishedItemNamesSoapOut.....	66
3.1.4.11.2	Elements.....	66
3.1.4.11.2.1	GetPublishedItemNames.....	67
3.1.4.11.2.2	GetPublishedItemNamesResponse	67
3.1.4.11.3	Complex Types	67
3.1.4.11.3.1	ArrayOfWorkbookItem.....	67
3.1.4.11.3.2	WorkbookItem	68
3.1.4.11.4	Simple Types	68
3.1.4.11.4.1	ItemType.....	68
3.1.4.11.5	Attributes.....	69
3.1.4.11.6	Groups.....	69
3.1.4.11.7	Attribute Groups.....	69
3.1.4.12	GetRange.....	69
3.1.4.12.1	Messages	70
3.1.4.12.1.1	GetRangeSoapIn	70
3.1.4.12.1.2	GetRangeSoapOut	70
3.1.4.12.2	Elements.....	71
3.1.4.12.2.1	GetRange	71
3.1.4.12.2.2	GetRangeResponse	71
3.1.4.12.3	Complex Types	72
3.1.4.12.4	Simple Types	72
3.1.4.12.5	Attributes.....	72
3.1.4.12.6	Groups.....	72
3.1.4.12.7	Attribute Groups.....	72
3.1.4.13	GetRangeA1.....	72
3.1.4.13.1	Messages	73
3.1.4.13.1.1	GetRangeA1SoapIn.....	73
3.1.4.13.1.2	GetRangeA1SoapOut.....	74
3.1.4.13.2	Elements.....	74
3.1.4.13.2.1	GetRangeA1.....	74
3.1.4.13.2.2	GetRangeA1Response	74
3.1.4.13.3	Complex Types	75
3.1.4.13.4	Simple Types	75
3.1.4.13.5	Attributes.....	75
3.1.4.13.6	Groups.....	75
3.1.4.13.7	Attribute Groups.....	75

3.1.4.14	GetSessionInformation	75
3.1.4.14.1	Messages	76
3.1.4.14.1.1	GetSessionInformationSoapIn	76
3.1.4.14.1.2	GetSessionInformationSoapOut	76
3.1.4.14.2	Elements	76
3.1.4.14.2.1	GetSessionInformation	76
3.1.4.14.2.2	GetSessionInformationResponse	77
3.1.4.14.3	Complex Types	77
3.1.4.14.4	Simple Types	77
3.1.4.14.5	Attributes	77
3.1.4.14.6	Groups	77
3.1.4.14.7	Attribute Groups	77
3.1.4.15	GetSheetNames	77
3.1.4.15.1	Messages	78
3.1.4.15.1.1	GetSheetNamesSoapIn	78
3.1.4.15.1.2	GetSheetNamesSoapOut	78
3.1.4.15.2	Elements	78
3.1.4.15.2.1	GetSheetNames	79
3.1.4.15.2.2	GetSheetNamesResponse	79
3.1.4.15.3	Complex Types	79
3.1.4.15.3.1	ArrayOfSheetInfo	80
3.1.4.15.3.2	SheetInfo	80
3.1.4.15.4	Simple Types	80
3.1.4.15.4.1	SheetType	80
3.1.4.15.4.2	SheetVisibility	81
3.1.4.15.5	Attributes	81
3.1.4.15.6	Groups	81
3.1.4.15.7	Attribute Groups	81
3.1.4.16	GetWorkbook	81
3.1.4.16.1	Messages	82
3.1.4.16.1.1	GetWorkbookSoapIn	82
3.1.4.16.1.2	GetWorkbookSoapOut	82
3.1.4.16.2	Elements	83
3.1.4.16.2.1	GetWorkbook	83
3.1.4.16.2.2	GetWorkbookResponse	83
3.1.4.16.3	Complex Types	83
3.1.4.16.4	Simple Types	84
3.1.4.16.5	Attributes	84
3.1.4.16.6	Groups	84
3.1.4.16.7	Attribute Groups	84
3.1.4.17	GetWorkbookConnections	84
3.1.4.17.1	Messages	84
3.1.4.17.1.1	GetWorkbookConnectionsSoapIn	84
3.1.4.17.1.2	GetWorkbookConnectionsSoapOut	85
3.1.4.17.2	Elements	85
3.1.4.17.2.1	GetWorkbookConnections	85
3.1.4.17.2.2	GetWorkbookConnectionsResponse	85
3.1.4.17.3	Complex Types	86
3.1.4.17.4	Simple Types	86
3.1.4.17.5	Attributes	86
3.1.4.17.6	Groups	86
3.1.4.17.7	Attribute Groups	86
3.1.4.18	NewWorkbook	86

3.1.4.18.1	Messages	87
3.1.4.18.1.1	NewWorkbookSoapIn	87
3.1.4.18.1.2	NewWorkbookSoapOut	87
3.1.4.18.2	Elements	87
3.1.4.18.2.1	NewWorkbook	87
3.1.4.18.2.2	NewWorkbookResponse	88
3.1.4.18.3	Complex Types	88
3.1.4.18.4	Simple Types	88
3.1.4.18.5	Attributes	88
3.1.4.18.6	Groups	88
3.1.4.18.7	Attribute Groups	88
3.1.4.19	OpenWorkbook	89
3.1.4.19.1	Messages	90
3.1.4.19.1.1	OpenWorkbookSoapIn	90
3.1.4.19.1.2	OpenWorkbookSoapOut	90
3.1.4.19.2	Elements	90
3.1.4.19.2.1	OpenWorkbook	91
3.1.4.19.2.2	OpenWorkbookResponse	91
3.1.4.19.3	Complex Types	91
3.1.4.19.4	Simple Types	92
3.1.4.19.5	Attributes	92
3.1.4.19.6	Groups	92
3.1.4.19.7	Attribute Groups	92
3.1.4.20	OpenWorkbookEx	92
3.1.4.20.1	Messages	92
3.1.4.20.1.1	OpenWorkbookExSoapIn	92
3.1.4.20.1.2	OpenWorkbookExSoapOut	93
3.1.4.20.2	Elements	93
3.1.4.20.2.1	OpenWorkbookEx	93
3.1.4.20.2.2	OpenWorkbookExResponse	93
3.1.4.20.3	Complex Types	94
3.1.4.20.4	Simple Types	94
3.1.4.20.5	Attributes	94
3.1.4.20.6	Groups	94
3.1.4.20.7	Attribute Groups	94
3.1.4.21	OpenWorkbookForEditing	94
3.1.4.21.1	Messages	95
3.1.4.21.1.1	OpenWorkbookForEditingSoapIn	96
3.1.4.21.1.2	OpenWorkbookForEditingSoapOut	96
3.1.4.21.2	Elements	96
3.1.4.21.2.1	OpenWorkbookForEditing	96
3.1.4.21.2.2	OpenWorkbookForEditingResponse	97
3.1.4.21.3	Complex Types	97
3.1.4.21.4	Simple Types	97
3.1.4.21.5	Attributes	97
3.1.4.21.6	Groups	97
3.1.4.21.7	Attribute Groups	97
3.1.4.22	Refresh	97
3.1.4.22.1	Messages	98
3.1.4.22.1.1	RefreshSoapIn	98
3.1.4.22.1.2	RefreshSoapOut	98
3.1.4.22.2	Elements	98
3.1.4.22.2.1	Refresh	99

3.1.4.22.2	RefreshResponse	99
3.1.4.22.3	Complex Types	99
3.1.4.22.4	Simple Types	99
3.1.4.22.5	Attributes	99
3.1.4.22.6	Groups.....	99
3.1.4.22.7	Attribute Groups.....	99
3.1.4.23	RefreshEx	100
3.1.4.23.1	Messages	100
3.1.4.23.1.1	RefreshExSoapIn	100
3.1.4.23.1.2	RefreshExSoapOut	100
3.1.4.23.2	Elements	100
3.1.4.23.2.1	RefreshEx	101
3.1.4.23.2.2	RefreshExResponse.....	101
3.1.4.23.3	Complex Types	101
3.1.4.23.4	Simple Types	101
3.1.4.23.5	Attributes	101
3.1.4.23.6	Groups.....	101
3.1.4.23.7	Attribute Groups.....	102
3.1.4.24	SaveWorkbook	102
3.1.4.24.1	Messages	102
3.1.4.24.1.1	SaveWorkbookSoapIn	102
3.1.4.24.1.2	SaveWorkbookSoapOut	103
3.1.4.24.2	Elements	103
3.1.4.24.2.1	SaveWorkbook	103
3.1.4.24.2.2	SaveWorkbookResponse	103
3.1.4.24.3	Complex Types	104
3.1.4.24.4	Simple Types	104
3.1.4.24.5	Attributes	104
3.1.4.24.6	Groups.....	104
3.1.4.24.7	Attribute Groups.....	104
3.1.4.25	SaveWorkbookCopy	104
3.1.4.25.1	Messages	105
3.1.4.25.1.1	SaveWorkbookCopySoapIn	105
3.1.4.25.1.2	SaveWorkbookCopySoapOut	105
3.1.4.25.2	Elements	105
3.1.4.25.2.1	SaveWorkbookCopy	105
3.1.4.25.2.2	SaveWorkbookCopyResponse	106
3.1.4.25.3	Complex Types	106
3.1.4.25.4	Simple Types	106
3.1.4.25.4.1	SaveOptions.....	107
3.1.4.25.5	Attributes	107
3.1.4.25.6	Groups.....	107
3.1.4.25.7	Attribute Groups.....	107
3.1.4.26	SetCalculationOptions.....	107
3.1.4.26.1	Messages	108
3.1.4.26.1.1	SetCalculationOptionsSoapIn.....	108
3.1.4.26.1.2	SetCalculationOptionsSoapOut	108
3.1.4.26.2	Elements	108
3.1.4.26.2.1	SetCalculationOptions	108
3.1.4.26.2.2	SetCalculationOptionsResponse	109
3.1.4.26.3	Complex Types	109
3.1.4.26.4	Simple Types	109
3.1.4.26.4.1	WorkbookCalculation.....	109

3.1.4.26.5	Attributes	110
3.1.4.26.6	Groups	110
3.1.4.26.7	Attribute Groups	110
3.1.4.27	SetCell	110
3.1.4.27.1	Messages	111
3.1.4.27.1.1	SetCellSoapIn	111
3.1.4.27.1.2	SetCellSoapOut	111
3.1.4.27.2	Elements	111
3.1.4.27.2.1	SetCell	111
3.1.4.27.2.2	SetCellResponse	112
3.1.4.27.3	Complex Types	112
3.1.4.27.4	Simple Types	112
3.1.4.27.5	Attributes	112
3.1.4.27.6	Groups	113
3.1.4.27.7	Attribute Groups	113
3.1.4.28	SetCellA1	113
3.1.4.28.1	Messages	114
3.1.4.28.1.1	SetCellA1SoapIn	114
3.1.4.28.1.2	SetCellA1SoapOut	114
3.1.4.28.2	Elements	114
3.1.4.28.2.1	SetCellA1	114
3.1.4.28.2.2	SetCellA1Response	115
3.1.4.28.3	Complex Types	115
3.1.4.28.4	Simple Types	115
3.1.4.28.5	Attributes	115
3.1.4.28.6	Groups	115
3.1.4.28.7	Attribute Groups	115
3.1.4.29	SetParameters	116
3.1.4.29.1	Messages	117
3.1.4.29.1.1	SetParametersSoapIn	117
3.1.4.29.1.2	SetParametersSoapOut	117
3.1.4.29.2	Elements	117
3.1.4.29.2.1	SetParameters	117
3.1.4.29.2.2	SetParametersResponse	118
3.1.4.29.3	Complex Types	118
3.1.4.29.3.1	ArrayOfParameterInfo	118
3.1.4.29.3.2	ParameterInfo	118
3.1.4.29.4	Simple Types	119
3.1.4.29.5	Attributes	119
3.1.4.29.6	Groups	119
3.1.4.29.7	Attribute Groups	119
3.1.4.30	SetRange	119
3.1.4.30.1	Messages	120
3.1.4.30.1.1	SetRangeSoapIn	120
3.1.4.30.1.2	SetRangeSoapOut	120
3.1.4.30.2	Elements	121
3.1.4.30.2.1	SetRange	121
3.1.4.30.2.2	SetRangeResponse	121
3.1.4.30.3	Complex Types	122
3.1.4.30.4	Simple Types	122
3.1.4.30.5	Attributes	122
3.1.4.30.6	Groups	122
3.1.4.30.7	Attribute Groups	122

3.1.4.31	SetRangeA1	122
3.1.4.31.1	Messages	123
3.1.4.31.1.1	SetRangeA1SoapIn	123
3.1.4.31.1.2	SetRangeA1SoapOut	123
3.1.4.31.2	Elements	123
3.1.4.31.2.1	SetRangeA1	123
3.1.4.31.2.2	SetRangeA1Response.....	124
3.1.4.31.3	Complex Types	124
3.1.4.31.4	Simple Types	124
3.1.4.31.5	Attributes	124
3.1.4.31.6	Groups.....	124
3.1.4.31.7	Attribute Groups.....	124
3.1.5	Timer Events	125
3.1.6	Other Local Events	125
4	Protocol Examples.....	126
4.1	Getting the Value of a Worksheet Cell	126
4.2	Refreshing Data and Retrieving a Workbook.....	129
5	Security.....	141
5.1	Security Considerations for Implementers.....	141
5.2	Index of Security Parameters	141
6	Appendix A: Full WSDL.....	142
7	Appendix B: Product Behavior.....	171
8	Change Tracking.....	173
9	Index	174

1 Introduction

The Excel Web Services Protocol is a Web service protocol that is used to read from and perform basic operations on workbooks hosted on a protocol server.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [\[RFC2119\]](#). Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are defined in [MS-OFCGLOS]:

- active sheet**
- array formula**
- AutoFilter**
- automatic calculation mode**
- calculate**
- calculation mode**
- cell**
- cell error value**
- chart sheet**
- checked out**
- column**
- confirmation**
- connected data**
- cube**
- data connection**
- data culture**
- data provider**
- data table**
- default filter value**
- dimension**
- document library**
- edit session**
- farm**
- filter**
- formula**
- grow**
- Hypertext Transfer Protocol (HTTP)**
- Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**
- Information Rights Management (IRM)**
- item**
- level**
- license key**
- list**
- locked**
- manual calculation mode**
- manual filter**
- merged cell**
- named object**
- named range**
- new workbook session**

non-contiguous range
number format
OLAP
Open Item permission
permission
PivotTable
PivotTable member
PivotTable page field
published
published item
published items snapshot
published sheet
query
range
refresh
row
session
session identifier
sheet
site
 slicer
snapshot
SOAP
SOAP action
SOAP body
SOAP fault
table
trusted location
UI culture
Uniform Resource Identifier (URI)
Uniform Resource Locator (URL)
Universal Naming Convention (UNC)
user-defined function (UDF)
view session
view-only mode
visible
web service
Web Services Description Language (WSDL)
workbook
workbook file
workbook parameter
worksheet
WSDL message
WSDL operation
XML namespace
XML namespace prefix
XML schema

The following terms are specific to this document:

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

References to Microsoft Open Specification documents do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information.

[ISO/IEC29500-1:2011] ISO/IEC, "Information Technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2011, 2011, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59575

[ISO/IEC29500-1:2012] ISO/IEC, "Information Technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61750

[MS-ODBCSTR] Microsoft Corporation, "[ODBC Connection String Structure](#)".

[MS-ODCFF] Microsoft Corporation, "[Office Data Connection File Format Structure Specification](#)".

[MS-OFFMACRO2] Microsoft Corporation, "[Office Macro-Enabled File Format Version 2 Structure Specification](#)".

[MS-OLEDBSTR] Microsoft Corporation, "[OLEDB Connection String Structure](#)".

[MS-XLSB] Microsoft Corporation, "[Excel Binary File Format \(.xlsb\) Structure Specification](#)".

[ODF] OASIS, "Open Document Format for Office Applications (OpenDocument) v1.1", 1 February 2007, <http://docs.oasis-open.org/office/v1.1/OS/OpenDocument-v1.1-html/OpenDocument-v1.1.html>

[RFC1766] Alvestrand, H., "Tags for the Identification of Languages", RFC 1766, March 1995, <http://www.ietf.org/rfc/rfc1766.txt>

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

[RFC2396] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifiers (URI): Generic Syntax", RFC 2396, August 1998, <http://www.rfc-editor.org/rfc/rfc2396.txt>

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, <http://www.rfc-editor.org/rfc/rfc2616.txt>

[RFC3986] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifier (URI): Generic Syntax", STD 66, RFC 3986, January 2005, <http://www.ietf.org/rfc/rfc3986.txt>

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part1-20030624>

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part2-20030624>

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, <http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[XMLSCHEMA1] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

1.2.2 Informative References

[MSDN-ESO] Microsoft Corporation, "Excel Services Overview", <http://msdn.microsoft.com/en-us/library/ms546696.aspx>

[MSDN-UFES] Microsoft Corporation, "Unsupported Features in Excel Services", <http://msdn.microsoft.com/en-us/library/ms496823.aspx>

[MSDN-WDCAEWS] Microsoft Corporation, "Walkthrough: Developing a Custom Application Using Excel Web Services", <http://msdn.microsoft.com/en-us/library/ms519100.aspx>

[MSFT-ACRR] Microsoft Corporation, "About Cell and Range References", <http://office.microsoft.com/en-us/help/HP051983231033.aspx>

[MS-OFGLGLOS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.rfc-editor.org/rfc/rfc2818.txt>

1.3 Overview

This protocol is a Web service based protocol that is used to access **workbooks** controlled by a protocol server. The protocol specified in this document is stateful and relies on **sessions** (2) to maintain state. Workbooks hosted on a protocol server are used to present, store, manipulate, and **calculate** tabular data. For an overview of the specific implementation of a workbook server system that uses this protocol, see [\[MSDN-ESO\]](#).

The protocol provides the following sets of functionality that can be performed on workbooks:

- Open existing workbooks for viewing and editing and close open workbooks.
- Create new workbooks.
- Save workbooks.
- Retrieve the full contents of the current open copy.

- Recalculation.
- **Refresh connected data.**
- Set specific values into a **worksheet cell** or **range**.
- Get specific values from a worksheet cell or range.
- Cancel a request.
- Get the names of all the **published items** in a workbook.
- Get a **URL** to an image of a chart in a workbook.
- Get information about a session.
- Get the version of the protocol server.

1.3.1 Published Items and Results Returned by this Protocol

A protocol server can have functionality where only portions of the workbook are available for use by protocol clients. The parts of the workbook that are accessible from the protocol server are said to be published. Some of the operations in this protocol could fail if the workbook item being exposed or changed is not published and the user does not have sufficient permissions to view items that have not been published.

1.4 Relationship to Other Protocols

This protocol uses the **SOAP** message protocol for formatting request and response messages, as described in [\[SOAP1.1\]](#), [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#). It transmits those messages by using **HTTP**, as described in [\[RFC2616\]](#), or **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [\[RFC2818\]](#).

The following diagram shows the underlying messaging and transport stack used by the protocol:

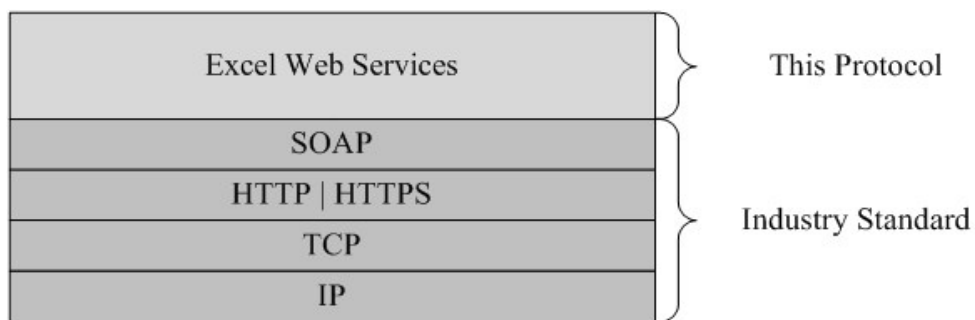


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a **site** (2) that is identified by a URL that is known by protocol clients. The protocol server endpoint is formed by appending "_vti_bin/ExcelService.asmx" to the URL of the site (2), for example http://www.contoso.com/Repository/_vti_bin/ExcelService.asmx.

This protocol assumes that authentication has been performed by the underlying protocols.

1.6 Applicability Statement

This protocol can be used at any time to access a simple interface that supports basic operations that leverage server side calculation of workbooks is needed. It is appropriate to use this as a public-facing interface to workbooks hosted on a server.

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported transports:** This protocol can be implemented by using transports that support sending SOAP messages, as described in section [2.1](#).
- **Protocol versions:** This protocol is not versioned.
- **Capability negotiation:** This protocol does not support capability negotiation.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

In the following sections, the schema definition might differ from the processing rules imposed by the protocol. The **WSDL** in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL might specify differences that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be **empty**, **null**, or **not present** but the behavior of the protocol as specified restricts the same elements to being **non-empty**, **not null**, and **present**.

2.1 Transport

Protocol servers **MUST** support SOAP over HTTP. Protocol servers **MAY** additionally support SOAP over HTTPS for securing communication with clients.

Protocol messages **MUST** be formatted as specified either in [\[SOAP1.1\]](#) section 4 or in [\[SOAP1.2/1\]](#) section 5. Protocol server faults **MUST** be returned either by using HTTP Status Codes as specified in [\[RFC2616\]](#) section 10, or by using **SOAP faults** as specified either in [\[SOAP1.1\]](#), section 4.4 or in [\[SOAP1.2/1\]](#) section 5.4. The version of the SOAP fault returned **MUST** correspond to the version of SOAP used for the request **WSDL message**.

2.2 Common Message Syntax

This section contains common definitions that are used by this protocol. The syntax of the definitions uses **XML schema**, as specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and WSDL, as specified in [\[WSDL\]](#).

2.2.1 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific **XML namespace prefix** for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
http	http://schemas.xmlsoap.org/wsdl/http/	
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
soap12	http://schemas.xmlsoap.org/wsdl/soap12/	[SOAP1.2/1] [SOAP1.2/2]
tns	http://schemas.microsoft.com/office/excel/server/webservices	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]

2.2.2 Messages

This specification does not define any common WSDL message definitions.

2.2.3 Elements

This specification does not define any common XML schema element definitions.

2.2.4 Complex Types

The following table summarizes the set of common XML schema complex type definitions defined by this specification. XML schema complex type definitions that are specific to a particular operation are described with the operation.

Complex type	Description
ArrayOfAnyType	An array of anyType elements defined as follows.
ArrayOfStatus	An array of status information.
ArrayOfString	An array of string elements.
RangeCoordinates	Specifies a range on a workbook.
Status	The status information returned by the protocol server defined as follows.
TypeExporter	MUST NOT be used.

2.2.4.1 ArrayOfAnyType

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

An array of **anyType** elements defined as follows.

```
<xs:complexType name="ArrayOfAnyType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="anyType" nillable="true"/>
  </xs:sequence>
</xs:complexType>
```

anyType: An **anyType** value.

2.2.4.2 ArrayOfStatus

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

An array of status information.

- The protocol server MUST use the **Status** complex type to return informative status messages to the protocol client for operations that succeed.
- The protocol client MUST NOT perform any logic based on the specific values in the **Name** or **Message** elements returned in the **Status** type.

This complex type is defined as follows.

```
<xs:complexType name="ArrayOfStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="Status" nillable="true"
      type="tns:Status"/>
  </xs:sequence>
</xs:complexType>
```

```
</xs:sequence>
</xs:complexType>
```

Status: The status information returned by the protocol server.

2.2.4.3 ArrayOfString

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

An array of string elements.

```
<xs:complexType name="ArrayOfString" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
      type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

string: A string value.

2.2.4.4 RangeCoordinates

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

Specifies a range on a workbook.

- **RangeCoordinates** MUST be considered empty if **Row**, **Column**, **Height**, and **Width** are all 0. Otherwise, **RangeCoordinates** MUST NOT be considered empty.
- If **Height** is 0, then **Row**, **Column**, and **Width** MUST be 0.
- If **Width** is 0, then **Row**, **Column**, and **Height** MUST be 0.

This complex type is defined as follows.

```
<xs:complexType name="RangeCoordinates" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Row" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Column" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

Row: The **row** (2) index. MUST be greater than or equal to 0 and less than or equal to 1,048,575.

Column: The **column** (2) index. MUST be greater than or equal to 0 and less than or equal to 16,383.

Height: The number of rows (2). MUST be greater than or equal to 0. The sum of **Row** and **Height** MUST NOT be greater than 1,048,576.

Width: The number of columns (2). MUST be greater than or equal to 0. The sum of **Column** and **Width** MUST NOT be greater than 16,384.

2.2.4.5 Status

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

The status information returned by the protocol server defined as follows.

```
<xs:complexType name="Status" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Severity" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Message" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Name: The name of the status message. MUST be present. SHOULD be any subcode specified in section [2.2.9.1](#), but MAY be any other string.

Severity: The severity of the status message. MUST contain one of the values described in the following table.

Value	Meaning
Error	The status is of severity error.
Warning	The status is of severity warning.
Information	The status is of severity information.

Message: The message description.

2.2.4.6 TypeExporter

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

MUST NOT be used.

It is defined as follows.

```
<xs:complexType name="TypeExporter" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="CellError" type="tns:CellError"/>
  </xs:sequence>
</xs:complexType>
```

CellError: MUST NOT be used.

2.2.5 Simple Types

The following table summarizes the set of common XML schema simple type definitions defined by this specification. XML schema simple type definitions that are specific to a particular operation are described with the operation.

Simple type	Description
CellError	The CellError type is an enumeration of a set of cell error values that a worksheet cell can contain.
RangeReference	A string that is used by the protocol server to identify a range on a sheet (2) in a workbook, in some of the operations specified by this protocol.
SheetName	A string that is used by the protocol server to find a sheet (1) in a workbook in some of the operations specified in this protocol.
WorkbookType	An enumeration that is used in the GetWorkbook and SaveWorkbookCopy operations to specify the form of the requested workbook.

2.2.5.1 CellError

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

The **CellError** type is an enumeration of a set of cell error values that a worksheet cell can contain.

It is defined as follows.

```
<xs:simpleType name="CellError" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Div0"/>
    <xs:enumeration value="NA"/>
    <xs:enumeration value="Name"/>
    <xs:enumeration value="Null"/>
    <xs:enumeration value="Num"/>
    <xs:enumeration value="Ref"/>
    <xs:enumeration value="Value"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **CellError** simple type.

Value	Meaning
Div0	Worksheet cell contains a number that is divided by 0.
NA	Worksheet cell contains a value not available to a formula .
Name	Worksheet cell contains text not recognized by a formula.
Null	Worksheet cell contains an empty intersection of two areas.
Num	Worksheet cell contains invalid numeric values in a formula.
Ref	Worksheet cell contains a reference that is not valid.
Value	Worksheet cell contains a formula that includes worksheet cells that contain different data types.

2.2.5.2 RangeReference

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

A string that is used by the protocol server to identify a range on a sheet (2) in a workbook, in some of the operations specified by this protocol.

It has the following specification:

- MUST NOT be longer than 32768 characters.
- SHOULD use the A1 reference style as defined in [\[MSFT-ACRR\]](#), but MAY use any format supported by the server to identify the range.

This simple type is defined as follows.

```
<xs:simpleType name="RangeReference" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string"/>
</xs:simpleType>
```

2.2.5.3 SheetName

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

A string that is used by the protocol server to find a sheet (1) in a workbook in some of the operations specified in this protocol.

It has the following specification:

- MUST NOT be longer than 31 characters.
- If empty, the protocol server MUST use the first sheet (1) in the workbook unless specified otherwise in the operation.
- If no sheet (1) in the workbook matches the requested **SheetName** simple type, the protocol server MUST return a SOAP fault response, which SHOULD contain the **InvalidSheetName** subcode but MAY contain any other subcode.

If the user does not have the **Open Item permission** for the workbook used by the session (2) , when **SheetName** is used by the **GetCell**, **GetCellA1**, **GetRange**, or **GetRangeA1** operations, the server MUST return a SOAP fault response, which MUST contain the **SpecifiedItemNotFound** subcode, if the matching sheet (1) is not a **visible** sheet (1).

This simple type is defined as follows.

```
<xs:simpleType name="SheetName" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string"/>
</xs:simpleType>
```

2.2.5.4 WorkbookType

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

An enumeration that is used in the **GetWorkbook** and **SaveWorkbookCopy** operations to specify the form of the requested workbook.

This enumeration is defined as follows.

```
<xs:simpleType name="WorkbookType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
```



```

<xs:restriction base="xs:string">
  <xs:enumeration value="FullWorkbook"/>
  <xs:enumeration value="FullSnapshot"/>
  <xs:enumeration value="PublishedItemsSnapshot"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for the **WorkbookType** simple type.

Value	Meaning
FullWorkbook	The protocol server returns the workbook.
FullSnapshot	The protocol server returns a snapshot that contains the entire contents of the workbook.
PublishedItemsSnapshot	The protocol server returns a published items snapshot .

2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

2.2.7 Groups

This specification does not define any common XML schema group definitions.

2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

2.2.9 Common Data Structures

This protocol allows protocol servers to notify protocol clients of application-level faults by using SOAP faults. Except where specified, these SOAP faults are not significant for interoperability, and protocol clients can interpret them in an implementation-specific manner.

If [\[SOAP1.2/1\]](#) or [\[SOAP1.2/2\]](#) is used for transport, the protocol server MUST use the **Value** element inside the **Subcode** element to pass the error code, as specified in [\[SOAP1.2/1\]](#), Section 5.4.1.3. Expected subcode values are specified in each operation. Common expected subcodes are specified in the [Common List of Subcodes](#).

2.2.9.1 Faults

The following table describes the error codes.

Value	Meaning
Blank	MUST NOT be used.
InternalError	An unexpected error occurred in the protocol server.
NotMemberOfRole	The user does not have permissions to complete the operation.
EncryptionTooLow	The protocol server is configured to accept only HTTPS,

Value	Meaning
	and the protocol client has tried to connect with a non HTTPS.
ConfirmDataRefresh	A connected data refresh confirmation is requested by the protocol client before connected data refresh on a workbook.
ExternalDataRefreshFailed	Connected data refresh failed.
ExternalDataRefreshFailedReal	Connected data refresh failed.<1>
ExternalDataRefreshFailedReadOnly	The query of one of the external sources failed (error message for users with read- or view-only permissions).
NoAccessToOdcReadOnly	The query of one of the external sources failed due to no access to the ODC file (error message for users with read- or view-only permissions).
ErrorConnectingToDataSourceReadOnly	The query of one of the external sources failed due to failure to connect to the data source (error message for users with read- or view-only permissions).
InvalidUserNameOrPasswordReadOnly	The query of one of the external sources failed due to invalid credentials (error message for users with read- or view-only permissions).
InvalidUserNameOrPassword	The query of one of the external sources failed due to invalid credentials.
ExternalDataNotAllowedOnTL	The query of one of the external sources failed because external data connections are not allowed on the Trusted Location.
InvalidUriLocalConnectionPath	The query of one of the external sources failed due to a local path for the ODC file.
DclNotTrusted	The query of one of the external sources failed because the specified DCL is not trusted.
OdcFileDoesNotExist	The query of one of the external sources failed because the specified ODC file does not exist.
ErrorAccessingSsoFromEcs	The query of one of the external sources failed because the ECS is unable to access SSO.
SsoError	The query of one of the external sources failed due to an SSO error.
ErrorConnectingToDataSource	The query of one of the external sources failed due to the inability to connect to the specified data source.
UnattendedAccountNotConfigured	The query of one of the external sources failed because the unattended account is not configured.
IncorrectAuthUsed	The query of one of the external sources failed due to a credentials delegation error.
ExternalDataRefreshFailed_Details	Used by native code to report problems with a

Value	Meaning
	connection.
PivotNoOverlapAllowed	A PivotTable grew to the point where it would overlap another PivotTable.
PivotOverlapList	A PivotTable grew to the point where it would overlap a list (2).
PivotCubeNotUnique	An OLAP query found more than one cube of the same name.
NoDataItemsOlap	An OLAP query found nothing to display.
OlapSchemaFail	An OLAP query was unable to fetch the schema of the cube.
InvalidPivot	A PivotTable is invalid.
OlapNoMoreDetail	A PivotTable has reached the lowest level of detail.
DrillActionInvalid	A PivotTable member cannot be expanded any further.
DriverNotOlap	The database does not support OLAP.
CubeMissing	The OLAP query was unable to locate the cube in the database.
SkipLine	Not all data received from the OLAP query could be displayed.
CDimMismatch	The OLAP data provider returned an unexpected number of dimensions (2).
DataSetAxisTooBig	The row (2) or column (2) area of the PivotTable is too large.
CubeIntegrityError	There was a problem with the structure of the OLAP cube.
PivotNotExpandedtoProtectCellContents	The PivotTable would have filled worksheet cells that already contain values, so the operation was canceled.
PivotTruncatedSheetEdge	The PivotTable was truncated by a worksheet edge.
DdlGrpNotSup	The PivotTable operation is not supported by the OLAP data provider.
PivotFormulasCollided	Some calculated PivotTable members were removed from the PivotTable because new PivotTable members of the same name appeared during refresh.
NoRetItems	The query of the PivotTable page field did not return any items.
OlapConnectVisualModeProvider	The PivotTable operation is not supported by the OLAP data provider.
PivotNoSourceData	The PivotTable was saved without the underlying data.

Value	Meaning
PivotFilteringError	The PivotTable could not be filtered.
PivotTableIncorrectDateFormat	An invalid date was used to filter the PivotTable.
PivotTableEndingLargerThanStarting	An invalid pair of starting and ending values was used to filter the PivotTable.
PivotTableIncorrectNumberFormat	A non-numeric value was used to filter the PivotTable, when a numeric value was required.
PivotTableOutOfRange	An out of range value was used to filter the PivotTable.
MergedCellOverlap	The PivotTable could not grow over part of a merged cell .
PivotSourceNotAvailable	The PivotTable could not be refreshed because its source is missing.
UnexpectedPivotError	The PivotTable has encountered an unexpected error.
EditModeCannotAcquireLockUnknownReason	An attempt to acquire or refresh a lock on a file failed.
EditModeCannotAcquireLock	An attempt to acquire or refresh a lock on a file failed because the file is already locked .
EditModeCannotAcquireLockUnknownUser	An attempt to acquire or refresh a lock on a file failed because the file is locked by an unknown user.
EditModeWorkbookCheckedOutRequired	An attempt to acquire or refresh a lock on a file failed because the file is not checked out .
EditModeWorkbookCheckedOutToLocalDrafts	An attempt to acquire or refresh a lock on a file failed because the file is checked out to a local drafts folder.
SiteTooBusy	MUST NOT be used.
SiteCollectionMemoryQuotaExceeded	MUST NOT be used.
SessionMemoryQuotaExceeded	MUST NOT be used.
SiteCollectionChartQuotaExceeded	MUST NOT be used.
RequestLimitsExceeded	Too many cells requested.
SavingUnsupportedInViewMode	An attempt was made to save a workbook from a view session .
SavingWorkbookNoWorkbookName	An attempt was made to save a workbook from a new workbook session .
FileSaveGeneric	The save operation failed.
SavingWorkbookInvalidPermissions	The user does not have permissions to save to the specified location.
SavingWorkbookMaximumSizeExceeded	An attempt to save a workbook failed because the workbook exceeds the maximum permitted size.
SavingWorkbookLockedOrCheckedOut	An attempt to save a workbook failed because the file is

Value	Meaning
	locked or checked out.
SavingWorkbookNotCheckedOut	An attempt to save a workbook failed because the file is not checked out.
SavingWorkbookAccessDenied	An attempt to save a workbook failed because the user does not have permission to overwrite an existing file.
SavingWorkbookInvalidFileType	MUST NOT be used.
SavingWorkbookFileNameExists	An attempt to save a workbook failed because the file already exists and the option to overwrite existing files was not specified.
SavingWorkbookNotTrustedLocation	An attempt to save a workbook failed because of the security settings on the protocol server.
SavingWorkbookInvalidLocation	An attempt to save a workbook failed because the specified file location is invalid.
SavingWorkbookInvalidFileName	An attempt to save a workbook failed because the specified file name is invalid.
SavingWorkbookTrustedLocationSettingWarning	An attempt to save a workbook failed because of the security settings on the protocol server.
SavingWorkbookAlmostTooLarge	MUST NOT be used.
SavingWorkbookTooLarge	MUST NOT be used.
NewWorkbookInvalidLocation	An attempt to create a new workbook failed because the specified location is invalid.
FileOpenSecuritySettings	Cannot open workbook because of security settings.
FileOpenNotFound	The specified workbook file does not exist.
FileOpenAccessDenied	The user does not have access to the workbook file.
FileCorrupt	The workbook file is in a format not recognized by the protocol server.
OpenWorkbookTooLarge	The protocol server failed to create a session (2) for a workbook because it is too large.
OpenWorkbookLocationNotTrusted	The protocol server failed to create a session (2) for a workbook because of the security settings on the protocol server.
OpenWorkbookAccessDenied	The protocol server failed to create a session (2) for a workbook because the user does not have sufficient permissions.
WorkbookNotSupported	The protocol server failed to create a session (2) for this workbook because it has unsupported content.
WorkbookNotSupportedViewRight	The protocol server failed to create a session (2) for this workbook because it has unsupported content and the user does not have Open Item permission.

Value	Meaning
UnsupportedFeatureViewWarning	MUST NOT be used.
UnsupportedFeatureSaveCopyWarning	MUST NOT be used.
ExternalWorkbookLinksDisabled	MUST NOT be used.
WorkbookLockedRead	An attempt to open a workbook failed because a file lock prevents it from being read.
EditModeCannotEditNonSharePointWorkbook	An attempt to open an edit session failed because the file is not in a document library .
EditModeAccessDenied	An attempt to open a workbook in an edit session failed because the user does not have sufficient permissions to edit the workbook file .
GenericFileOpenError	An unspecified error occurred when opening the workbook file.
IRMedWorkbook	An attempt to open a workbook failed because the workbook is in an Information Rights Management (IRM) document library.
ParameterInvalid	An attempt to open a workbook failed because the workbook contains one or more invalid workbook parameters .
ParameterLimitExceeded	An attempt to open a workbook failed because the workbook contains too many workbook parameters.
WorkbookInternalLimit	The workbook cannot be loaded by the protocol server because of a file-size limitation.
OldFormatConversionFailed	MUST NOT be used.
EditModeWorkbookExternalData	An attempt to open a workbook as an edit session failed because it contains connected data or user-defined functions (UDFs) , and the workbook file has not been checked out.
FormulaEditingNotEnabled	The operation failed because it tried to set a formula into a workbook parameter.
DimensionAndArrayMismatch	An attempt to set a range failed because the dimensions (2) of the specified array of cells do not match the specified range.
SetRangeFailure	The operation failed to set a value into a cell.
ObjectTypeNotSupported	The operation failed because it tried to update a cell with an object of an unsupported type.
ParameterDoesNotExist	The specified workbook parameter does not exist.
FormulaParseFailed	The specified formula could not be parsed.
SetParameterFailure	An unspecified error occurred when attempting to set a workbook parameter.

Value	Meaning
CannotEditPivotTable	The operation failed because it tried to set a cell in a PivotTable.
InsDelCellsNonblankCells	The operation failed because it would require shifting non-blank cells off the sheet (1).
InsDelCellsArrayFmla	The operation failed because it tried to change part of an array formula .
InsDelCellsPivotTable	The operation failed because it tried to change part of a PivotTable.
InsDelCellsTable	The operation failed because it tried to change part of a table .
InsDelCellsMergedCells	The operation failed because it tried to change part of a merged cell.
InsDelCellsDatatable	The operation failed because it tried to change part of a data table (1).
InsDelCellsRowsForWholeColumn	The operation failed because it tried to insert or delete a whole row (2), but the specified range is a whole column (2).
InsDelCellsColumnsForWholeRow	The operation failed because it tried to insert or delete a whole column (2), but the specified range is a whole row (2).
InvalidSheetName	The operation failed because the specified sheet (1) name does not exist.
RangeParseError	The operation failed because the specified range is invalid.
SpecifiedRangeNotFound	The operation failed because the specified range was not found.
RangeDefinitionError	The operation failed because the specified range is not a valid sheet (2) location.
DiscontiguousRangeNotSupported	The operation failed because a non-contiguous range was specified.
RangeRequestAreaExceeded	The requested range was too large.
SheetRangeMismatch	The sheet (2) provided as the sheet (2) argument is not the same as the sheet (2) specified in the range argument.
ImageGenFailed	The protocol server failed to create an image.
ApiInvalidArgument	The operation failed because an argument that passed was invalid.
ApiInvalidCoordinate	MUST NOT be used.
ConfirmationUnsupported	MUST NOT be used.

Value	Meaning
ApiInvalidDimensionReturned	MUST NOT be used.
ApiMissingSiteContext	MUST NOT be used.
Ewr_IllegalPageSize	MUST NOT be used.
Ewr_WorkbookNotSpecified	MUST NOT be used.
Ewr_LoadProgress	MUST NOT be used.
Ewr_FileCorrupt	MUST NOT be used.
Ewr_WorkbookNotSupported	MUST NOT be used.
Ewr_GenericFileOpenError	MUST NOT be used.
Ewr_InvalidParameterGeneric	MUST NOT be used.
Ewr_InvalidParameterMandatoryMissing	MUST NOT be used.
Ewr_InvalidParameterUnexpectedFormat	MUST NOT be used.
Ewr_InvalidParameterOutOfRange	MUST NOT be used.
Ewr_InvalidParameterOperationNotAllowed	MUST NOT be used.
Ewr_ParameterInvalid	MUST NOT be used.
Ewr_ParameterLimitExceeded	MUST NOT be used.
Ewr_ParameterDoesNotExist	MUST NOT be used.
Ewr_SetParameterFailure	MUST NOT be used.
Ewr_SetParameterFailureOnOpen	MUST NOT be used.
Ewr_ParameterReadFromDocPropsError	MUST NOT be used.
Ewr_FormulaEditingNotEnabled	MUST NOT be used.
Ewr_InvalidVisibleItem	MUST NOT be used.
Ewr_EditSaveAsOverCurrentWorkbook	MUST NOT be used.
Ewr_RequestTimedOut	MUST NOT be used.
Ewr_ServerCommunicationError	MUST NOT be used.
Ewr_ServerAuthenticationError	MUST NOT be used.
Mewa_PageStateInitFailed	MUST NOT be used.
Mewa_CriticalParameterMissing	MUST NOT be used.
Mewa_GridViewRenderingFailed	MUST NOT be used.
Mewa_FeatureNotActive	MUST NOT be used.
OperationNotSupportedInViewOnly	The operation failed because it is not supported in a

Value	Meaning
	view session.
OperationOnInvalidState	An attempt was made to open a session (2) that already has a workbook assigned.
InvalidOrTimedOutSession	The operation failed because the session (2) is invalid or timed out.
ScratchPadChangesLost	A view session (2) that is not in view-only mode timed out while the user was attempting to convert it to an edit session.
MaxSessionsPerUserExceeded	The user has exceeded the maximum allowed session (2) count by the protocol server.
OperationCanceled	The user canceled a request that was being processed by a session (2).
MaxRequestDurationExceeded	The request failed because it took too long to process.
NoOccurrencesFound	The protocol server could not match the sought string to any worksheet cell relevant to the search.
EcsInvalidNamedObject	An invalid named object was requested.
NoPublishedItems	The workbook does not have any published items .
RetryError	The operation could not be finished at this time, but the request may succeed if it is sent again by the protocol client.
StopOpenOnRefreshFailure	An attempt to open a workbook failed because connected data refresh failed.
ProductExpired	The protocol server returns this error when the application license key is invalid.
SortActionInvalid	Sorting an AutoFilter failed because it contains merged cells that are not all the same size.
SortActionNotSupportedWithPivot	Sorting an AutoFilter failed because it contains a PivotTable.
CircularReferencesFound	MUST NOT be used.
SessionNotFound	MUST NOT be used.
NewWorkbookSessionTimeout	A new workbook session has timed out.
EditXLSFile	MUST NOT be used.
UnsupportedFeatureEditWarning	Edit session is not supported for this workbook.
EditModeSessionExists	The view session could not be saved because the workbook is open in an edit session.
NewerWorkbookExists	The view session could not be saved because the workbook has been modified since the session (2) was opened.

Value	Meaning
ListEntryNotFound_1	MUST NOT be used.
ListEntryNotFound_2	MUST NOT be used.
ListEntryAlreadyExists_1	MUST NOT be used.
ListEntryAlreadyExists_2	MUST NOT be used.
InvalidArgumentValue	MUST NOT be used.
MissingArgumentName	MUST NOT be used.
InvalidArgumentName	MUST NOT be used.
ArgumentBadInRemove	MUST NOT be used.
ManagementUIListEntryAlreadyExists	MUST NOT be used.
ManagementUIListEntryNotFound	MUST NOT be used.
ManagementUIInternalError	MUST NOT be used.
UnsupportedUICulture	The UI culture is not supported by the protocol server.
UnsupportedDataCulture	The data culture is not supported by the protocol server.
SpecifiedItemNotFound	An attempt to set a range of cells in a workbook failed because the user does not have Open Item permission.
EcsSnapshotAccessDenied	The protocol server cannot return the workbook or a snapshot, because the user does not have Open Item permission.
SaveFailed	A save operation failed.
WrongEcs	An attempt was made to access an edit session that is owned by another instance of a protocol server in the farm .
PasteDataLimitHit	The string exceeds the maximum permitted length.
UndoRedoFail	MUST NOT be used.
CollabLocaleMismatch	The user joined an edit session whose data culture does not match the user's data culture.
LocaleRestored	The data culture of an edit session has been restored to the user's data culture.
InvalidEditSession	The edit session is invalid.
InvalidEditSessionId	MUST NOT be used.
UnableToLoadEditSession	Unable to load an edit session.
SavingWorkbookFailed	Failed to save workbook.
RefreshLockFailed	An attempt to refresh a lock on a workbook file failed.

Value	Meaning
InvalidChartName	An invalid chart name was specified.
RetryOutOfSync	The PivotTable operation failed.
OperationFailed	A workbook operation failed.
OpenInExcelActiveXError	MUST NOT be used.
Count	MUST NOT be used.

2.2.9.2 Common List of Subcodes

In the event of an application error during an operation the protocol server returns a SOAP fault response, which SHOULD [<2>](#) contain one of the following subcodes:

Subcode
InternalError
OperationFailed
NotMemberOfRole
EncryptionTooLow
ConfirmDataRefresh
OperationOnInvalidState
InvalidOrTimedOutSession
MaxSessionsPerUserExceeded
OperationCanceled
MaxRequestDurationExceeded
RetryError
ProductExpired
NewWorkbookSessionTimeout
SpecifiedItemNotFound
CollabLocaleMismatch
InvalidEditSession
UnableToLoadEditSession
SpecifiedRangeNotFound
EditModeAccessDenied
EditModeCannotAcquireLockUnknownReason
RequestLimitsExceeded

Subcode
SavingWorkbookFailed
RefreshLockFailed
ApiInvalidArgument

3 Protocol Details

In the following sections, the schema definition might differ from the processing rules imposed by the protocol. The WSDL in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL might specify differences that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be **empty**, **null**, or **not present** but the behavior of the protocol as specified restricts the same elements to being **non-empty**, **not null**, and **present**.

The client side of this protocol simply passes calls through, and no additional timers or other state is required. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

Except where specified, protocol clients SHOULD interpret HTTP status codes returned by the protocol server as specified in [\[RFC2616\]](#) section 10.

This protocol allows protocol servers to perform implementation-specific localization of text in various messages. Except where specified, the localization of this text is an implementation-specific behavior of the protocol server and not significant for interoperability.

The following high-level sequence diagram illustrates the operation of the protocol.

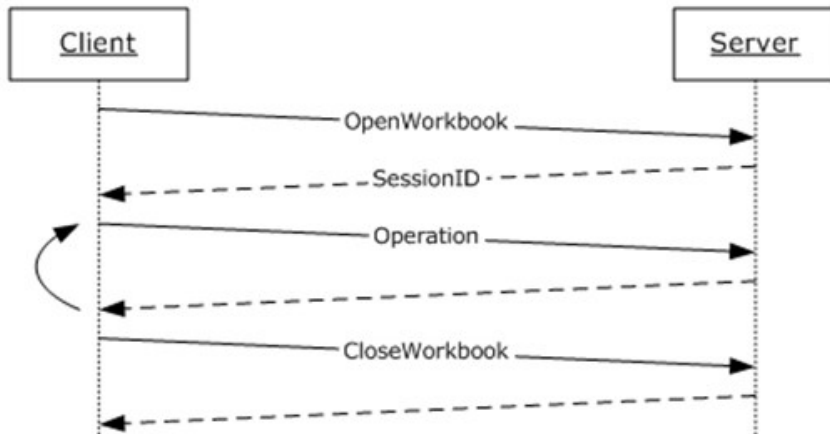


Figure 2: High-level sequence diagram

Session Behavior

View Sessions

A view session is created on a successful **OpenWorkbook** or **OpenWorkbookEx** request. A view session stops responding to operations after a successful call to the **CloseWorkbook** operation or after the view session has timed out.

New Workbook Sessions

A new workbook session is created on a successful **NewWorkbook** request. A new workbook session stops responding to operations after a successful call to the **CloseWorkbook** operation or after the new workbook session has timed out.

Edit Sessions

An edit session is created on a successful **OpenWorkbookForEditing** request, unless one already exists for the same **workbookPath**, as specified in [OpenWorkbookForEditing](#) (section 3.1.4.21). A new participant is added to the edit session on a successful **OpenWorkbookForEditing** request.

A participant that makes a call to **CloseWorkbook** is removed from the edit session if the operation completes successfully. An edit session stops responding to operations when all of its participants are removed.

Request Behavior

A request is created when a **Web service** operation starts running on the server, and ends when the Web service operation finishes, when it is successfully cancelled by a **CancelRequest** call, or after the request has timed out.

3.1 Server Details

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

Session: An entity that gives context to operations done against a workbook. A session (2) is associated with a workbook state, which can be modified by state changing requests.

Request: An entity that represents a running request on the protocol server.

3.1.2 Timers

3.1.2.1 Session Timeout

The protocol server MAY<3> time sessions (2) out. When a session (2) times out, the protocol server MUST NOT serve any requests to the timed out session (2).

3.1.2.2 Request Timeout

The protocol server MAY<4> time requests out. When a request times out, the protocol server SHOULD<5> return a SOAP fault response, with the subcode **MaxRequestDurationExceeded**.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the list of operations as defined by this specification.

Operation	Description
Calculate	This operation is used to calculate a specific range in the workbook.

Operation	Description
CalculateA1	This operation is used to calculate a specific range in the workbook.
CalculateWorkbook	This operation is used to calculate the workbook.
CancelRequest	This operation is used to cancel an operation that is currently running on the protocol server.
CloseWorkbook	This operation is used to close an existing session (2) or leave an edit session on the protocol server.
EnsureWorkbookModel	Loads workbook data model and returns information about the model.
GetApiVersion	This operation is used to get the version of the protocol server.
GetCell	This operation is used to retrieve the contents of a specific cell in the workbook.
GetCellA1	This operation is used to retrieve the contents of a specific cell in the workbook.
GetChartImageUrl	This operation returns the URL of a chart in a workbook.
GetPublishedItemNames	This operation returns a list of the published items in a workbook.
GetRange	This operation is used to retrieve the contents of a specific range in the workbook.
GetRangeA1	This operation is used to retrieve the contents of a named range in the workbook.
GetSessionInformation	This operation retrieves information about a session (2) on the protocol server.
GetSheetNames	The operation returns information about the sheets in a workbook.
GetWorkbook	This operation is used to retrieve a workbook file.
GetWorkbookConnections	Returns a list of data connection (2) names in the workbook.
NewWorkbook	This operation is used to create a new workbook session.
OpenWorkbook	This operation is used to create a new view session, giving access to a workbook on the protocol server.
OpenWorkbookEx	This operation is used to create a new view session, giving access to a workbook on the protocol server.
OpenWorkbookForEditing	This operation is used to create a new edit session, giving access to a workbook on the protocol server.
Refresh	This operation is used to refresh connected data on a workbook.
RefreshEx	This operation is used to refresh connected data on a workbook.
SaveWorkbook	This operation is used to save a workbook associated with an open session (2) to the same location from which it was opened.
SaveWorkbookCopy	This operation is used to save a workbook associated with an open session (2) to a specified location, and in a specified format.

Operation	Description
SetCalculationOptions	This operation is used to set the workbook calculation mode .
SetCell	This operation is used to set a value to a specific worksheet cell in the workbook.
SetCellA1	This operation is used to set a value to a specific worksheet cell in the workbook.
SetParameters	This operation to sets values of workbook parameters in a workbook.
SetRange	This operation is used to set values to a range of worksheet cells on a workbook.
SetRangeA1	This operation is used to set values to a range of worksheet cells on a workbook.

3.1.4.1 Calculate

This operation is used to calculate a specific range in the workbook.

The following is the WSDL port type specification of the **Calculate WSDL operation**.

```
<wsdl:operation name="Calculate" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CalculateSoapIn"/>
  <wsdl:output message="tns:CalculateSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **CalculateSoapIn** request message, and the protocol server responds with a **CalculateSoapOut** response message as follows:

1. If the protocol determines that the workbook does not need to be calculated, it MUST succeed the operation and it MUST ignore the **sheetName** and **rangeCoordinates** parameters.
2. **sheetName** MUST NOT be empty if **rangeCoordinates** is not empty, as defined in [RangeCoordinates](#). If **sheetName** is empty, the whole workbook MUST be calculated.
3. If **rangeCoordinates** is empty, as defined in section [2.2.4.4](#), and the **sheetName** is not empty, the whole sheet (2), which was specified in **sheetName**, MUST be calculated.
4. If **rangeCoordinates** is not empty, the specified range MUST be calculated.
5. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError

Subcode
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.1.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
CalculateSoapIn	The request WSDL message for the Calculate WSDL operation.
CalculateSoapOut	The response WSDL message for the Calculate WSDL operation.

3.1.4.1.1.1 CalculateSoapIn

The request WSDL message for the **Calculate** WSDL operation.

The **SOAP action** value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/Calculate
```

The **SOAP body** contains the **Calculate** element.

3.1.4.1.1.2 CalculateSoapOut

The response WSDL message for the **Calculate** WSDL operation.

The SOAP body contains the **CalculateResponse** element.

3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
Calculate	The input data for the Calculate WSDL operation.
CalculateResponse	The result data for the Calculate WSDL operation.

3.1.4.1.2.1 Calculate

The **Calculate** element specifies the input data for the **Calculate** WSDL operation.

```
<xs:element name="Calculate" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

        <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="rangeCoordinates"
type="tns:RangeCoordinates"/>
    </xs:sequence>
</xs:complexType>
</xs:element>

```

sessionId: A **session identifier** (2). MUST be present in the request message. MUST NOT be longer than 1023 characters. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) to calculate. MUST be present. MUST NOT be longer than 31 characters.

rangeCoordinates: The range to calculate on the specified sheet (2). MUST be present.

3.1.4.1.2.2 CalculateResponse

The **CalculateResponse** element specifies the result data for the **Calculate** WSDL operation.

```

<xs:element name="CalculateResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in **ArrayOfStatus** (section [2.2.4.2](#)).

3.1.4.1.3 Complex Types

None.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 CalculateA1

This operation is used to calculate a specific range in the workbook.

The following is the WSDL port type specification of the **CalculateA1** WSDL operation.

```
<wsdl:operation name="CalculateA1" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CalculateA1SoapIn"/>
  <wsdl:output message="tns:CalculateA1SoapOut"/>
</wsdl:operation>
```

The protocol client sends a **CalculateA1SoapIn** request message, and the protocol server responds with a **CalculateA1SoapOut** response message, as follows:

1. If the protocol determines that the workbook does not need to be calculated, it MUST succeed the operation and it MUST ignore the **sheetName** and **rangeName** parameters.
2. **sheetName** MUST be present and MUST NOT be empty, if **rangeName** is not empty. If **sheetName** is not present or is empty, the whole workbook MUST be calculated.
3. **rangeName** MUST be present. If **rangeName** is empty, and **sheetName** is present and not empty, the whole sheet (2), which was specified in **sheetName**, MUST be calculated.
4. If **rangeName** is not empty, the specified range MUST be calculated.
5. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.2.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
CalculateA1SoapIn	The request WSDL message for the CalculateA1 WSDL operation.
CalculateA1SoapOut	The response WSDL message for the CalculateA1 WSDL operation.

3.1.4.2.1.1 CalculateA1SoapIn

The request WSDL message for the **CalculateA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/CalculateA1
```

The SOAP body contains the **CalculateA1** element.

3.1.4.2.1.2 CalculateA1SoapOut

The response WSDL message for the **CalculateA1** WSDL operation.

The SOAP body contains the **CalculateA1Response** element.

3.1.4.2.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
CalculateA1	The input data for the CalculateA1 WSDL operation.
CalculateA1Response	The result data for the CalculateA1 WSDL operation.

3.1.4.2.2.1 CalculateA1

The **CalculateA1** element specifies the input data for the **CalculateA1** WSDL operation.

```
<xs:element name="CalculateA1" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session (2) identifier. MUST be present in the request message. MUST NOT be longer than 1023 characters. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) to calculate. MUST be present and MUST NOT be empty, if **rangeName** is not empty. MUST NOT be longer than 31 characters.

rangeName: The name of the range to calculate. MUST be present. MUST NOT be longer than 255 characters. See section [2.2.5.2](#).

3.1.4.2.2.2 CalculateA1Response

The **CalculateA1Response** element specifies the result data for the **CalculateA1** WSDL operation.

```
<xs:element name="CalculateA1Response" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
```

```

    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.2.3 Complex Types

None.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.4.3 CalculateWorkbook

This operation is used to calculate the workbook.

The following is the WSDL port type specification of the **CalculateWorkbook** WSDL operation.

```

<wsdl:operation name="CalculateWorkbook" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CalculateWorkbookSoapIn"/>
  <wsdl:output message="tns:CalculateWorkbookSoapOut"/>
</wsdl:operation>

```

The protocol client sends a **CalculateWorkbookSoapIn** request message and the protocol server responds with a **CalculateWorkbookSoapOut** response message as follows:

If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject
InvalidSheetName

Subcode
RangeDefinitionError
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.3.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
CalculateWorkbookSoapIn	The request WSDL message for the CalculateWorkbook WSDL operation.
CalculateWorkbookSoapOut	The response WSDL message for the CalculateWorkbook WSDL operation.

3.1.4.3.1.1 CalculateWorkbookSoapIn

The request WSDL message for the **CalculateWorkbook** WSDL operation.

The SOAP action value is:

`http://schemas.microsoft.com/office/excel/server/webservices/CalculateWorkbook`

The SOAP body contains the **CalculateWorkbook** element.

3.1.4.3.1.2 CalculateWorkbookSoapOut

The response WSDL message for the **CalculateWorkbook** WSDL operation.

The SOAP body contains the **CalculateWorkbookResponse** element.

3.1.4.3.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
CalculateWorkbook	The input data for the CalculateWorkbook WSDL operation.
CalculateWorkbookResponse	The result data for the CalculateWorkbook WSDL operation.

3.1.4.3.2.1 CalculateWorkbook

The **CalculateWorkbook** element specifies the input data for the **CalculateWorkbook** WSDL operation.

```

<xs:element name="CalculateWorkbook" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="calculateType" type="tns:CalculateType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

sessionId: A session (2) identifier. MUST be present in the request message. MUST NOT be longer than 1023 characters. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

calculateType: The type of calculation to perform, as defined in section [3.1.4.3.4.1](#).

3.1.4.3.2 CalculateWorkbookResponse

The **CalculateWorkbookResponse** element specifies the result data for the **CalculateWorkbook** WSDL operation.

```

<xs:element name="CalculateWorkbookResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.3.3 Complex Types

None.

3.1.4.3.4 Simple Types

The following table summarizes the XML schema simple type definitions that are specific to this operation.

Simple type	Description
CalculateType	The type of calculation to be executed.

3.1.4.3.4.1 CalculateType

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

The type of calculation to be executed.

```

<xs:simpleType name="CalculateType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Recalculate"/>
    <xs:enumeration value="CalculateFull"/>
  </xs:restriction>
</xs:simpleType>

```

```
</xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **CalculateType** simple type.

Value	Meaning
Recalculate	The protocol server MUST calculate all formulas in the workbook that need to be calculated.
CalculateFull	The protocol server MUST calculate all formulas.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 CancelRequest

This operation is used to cancel an operation that is currently running on the protocol server.

The following is the WSDL port type specification of the **CancelRequest** WSDL operation.

```
<wsdl:operation name="CancelRequest" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CancelRequestSoapIn"/>
  <wsdl:output message="tns:CancelRequestSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **CancelRequestSoapIn** request message, and the protocol server responds with a **CancelRequestSoapOut** response message, as follows:

- The protocol server SHOULD try to cancel all requests currently running on the protocol server against the session (2) specified in **sessionId**.
- The following MUST NOT cause an application error in the **CancelRequest** operation:
 - An operation is not currently running on the session (2).
 - A currently running operation on the session (2) cannot be cancelled.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.4.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
CancelRequestSoapIn	The request WSDL message for the CancelRequest WSDL operation.
CancelRequestSoapOut	The response WSDL message for the CancelRequest WSDL operation.

3.1.4.4.1.1 CancelRequestSoapIn

The request WSDL message for the **CancelRequest** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/CancelRequest
```

The SOAP body contains the **CancelRequest** element.

3.1.4.4.1.2 CancelRequestSoapOut

The response WSDL message for the **CancelRequest** WSDL operation.

The SOAP body contains the **CancelRequestResponse** element.

3.1.4.4.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
CancelRequest	The input data for the CancelRequest WSDL operation.
CancelRequestResponse	The result data for the CancelRequest WSDL operation.

3.1.4.4.2.1 CancelRequest

The **CancelRequest** element specifies the input data for the **CancelRequest** WSDL operation.

```
<xs:element name="CancelRequest" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

sessionId: A session identifier (2) MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**,

OpenWorkbookForEditing, or **NewWorkbook** operations, or but MAY instead be obtained in any other way.

3.1.4.4.2 CancelRequestResponse

The **CancelRequestResponse** element specifies the result data for the **CancelRequest** WSDL operation.

```
<xs:element name="CancelRequestResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

status: An array of status information as specified in **ArrayOfStatus** (section [2.2.4.2](#)).

3.1.4.4.3 Complex Types

None.

3.1.4.4.4 Simple Types

None.

3.1.4.4.5 Attributes

None.

3.1.4.4.6 Groups

None.

3.1.4.4.7 Attribute Groups

None.

3.1.4.5 CloseWorkbook

This operation is used to close an existing session (2) or leave an edit session on the protocol server.

The following is the WSDL port type specification of the **CloseWorkbook** WSDL operation.

```
<wsdl:operation name="CloseWorkbook" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:CloseWorkbookSoapIn"/>
  <wsdl:output message="tns:CloseWorkbookSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **CloseWorkbookSoapIn** request message and the protocol server responds with a **CloseWorkbookSoapOut** response message as follows:

If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.5.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
CloseWorkbookSoapIn	The request WSDL message for the CloseWorkbook WSDL operation.
CloseWorkbookSoapOut	The response WSDL message for the CloseWorkbook WSDL operation.

3.1.4.5.1.1 CloseWorkbookSoapIn

The request WSDL message for the **CloseWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/CloseWorkbook
```

The SOAP body contains the **CloseWorkbook** element.

3.1.4.5.1.2 CloseWorkbookSoapOut

The response WSDL message for the **CloseWorkbook** WSDL operation.

The SOAP body contains the **CloseWorkbookResponse** element.

3.1.4.5.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
CloseWorkbook	The input data for the CloseWorkbook WSDL operation.
CloseWorkbookResponse	The result data for the CloseWorkbook WSDL operation.

3.1.4.5.2.1 CloseWorkbook

The **CloseWorkbook** element specifies the input data for the **CloseWorkbook** WSDL operation.

```
<xs:element name="CloseWorkbook" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, or but MAY instead be obtained in any other way.

3.1.4.5.2.2 CloseWorkbookResponse

The **CloseWorkbookResponse** element specifies the result data for the **CloseWorkbook** WSDL operation.

```
<xs:element name="CloseWorkbookResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

status: MUST NOT be present.

3.1.4.5.3 Complex Types

None.

3.1.4.5.4 Simple Types

None.

3.1.4.5.5 Attributes

None.

3.1.4.5.6 Groups

None.

3.1.4.5.7 Attribute Groups

None.

3.1.4.6 EnsureWorkbookModel

Loads workbook data model and returns information about the model.

The following is the WSDL port type specification of the **EnsureWorkbookModel** WSDL operation.

```
<wsdl:operation name="EnsureWorkbookModel" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:EnsureWorkbookModelSoapIn"/>
  <wsdl:output message="tns:EnsureWorkbookModelSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **EnsureWorkbookModelSoapIn** request message, and the protocol server responds with a **EnsureWorkbookModelSoapOut** response message as follows:

- The protocol server loads workbook data model and returns information about the loaded model in the **WorkbookModelInfo** element.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.6.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
EnsureWorkbookModelSoapIn	The request WSDL message for the EnsureWorkbookModel WSDL operation.
EnsureWorkbookModelSoapOut	The response WSDL message for the EnsureWorkbookModel WSDL operation.

3.1.4.6.1.1 EnsureWorkbookModelSoapIn

The request WSDL message for the **EnsureWorkbookModel** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/EnsureWorkbookModel
```

The SOAP body contains the **EnsureWorkbookModel** element.

3.1.4.6.1.2 EnsureWorkbookModelSoapOut

The response WSDL message for the **EnsureWorkbookModel** WSDL operation.

The SOAP body contains the **EnsureWorkbookModelResponse** element.

3.1.4.6.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
EnsureWorkbookModel	The input data for the EnsureWorkbookModel WSDL operation.
EnsureWorkbookModelResponse	The result data for the EnsureWorkbookModel WSDL operation.

3.1.4.6.2.1 EnsureWorkbookModel

The **EnsureWorkbookModel** element specifies the input data for the **EnsureWorkbookModel** WSDL operation.

```
<xs:element name="EnsureWorkbookModel" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
```

```

    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

3.1.4.6.2.2 EnsureWorkbookModelResponse

The **EnsureWorkbookModelResponse** element specifies the result data for the **EnsureWorkbookModel** WSDL operation.

```

<xs:element name="EnsureWorkbookModelResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="EnsureWorkbookModelResult"
type="tns:WorkbookModelInfo"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

EnsureWorkbookModelResult: WorkbookModelInfo element as specified in section [3.1.4.6.3.1](#)

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.6.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
WorkbookModelInfo	Specifies server, database, version of the data model, and session timeout (section 3.1.2.1).

3.1.4.6.3.1 WorkbookModelInfo

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

Specifies **server**, **database**, **version** of the data model, and session timeout (section [3.1.2.1](#)).

```

<xs:complexType name="WorkbookModelInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Server" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Database" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SessionInteractivityTimeout"
type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Version" type="xs:int"/>
  </xs:sequence>

```

```
</xs:complexType>
```

Server: The server where the data model was loaded.

Database: The database on the server where the data model was loaded.

SessionInteractivityTimeout: Session timeout (section [3.1.2.1](#)).

Version: Version of the data model.

3.1.4.6.4 Simple Types

None.

3.1.4.6.5 Attributes

None.

3.1.4.6.6 Groups

None.

3.1.4.6.7 Attribute Groups

None.

3.1.4.7 GetApiVersion

This operation is used to get the version of the protocol server.

The following is the WSDL port type specification of the **GetApiVersion** WSDL operation.

```
<wsdl:operation name="GetApiVersion" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetApiVersionSoapIn"/>
  <wsdl:output message="tns:GetApiVersionSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetApiVersionSoapIn** request message, and the protocol server responds with a **GetApiVersionSoapOut** response message as follows:

- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.7.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetApiVersionSoapIn	The request WSDL message for the GetApiVersion WSDL operation.
GetApiVersionSoapOut	The response WSDL message for the GetApiVersion WSDL operation.

3.1.4.7.1.1 GetApiVersionSoapIn

The request WSDL message for the **GetApiVersion** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetApiVersion
```

The SOAP body contains the **GetApiVersion** element.

3.1.4.7.1.2 GetApiVersionSoapOut

The response WSDL message for the **GetApiVersion** WSDL operation.

The SOAP body contains the **GetApiVersionResponse** element.

3.1.4.7.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetApiVersion	The input data for the GetApiVersion WSDL operation.
GetApiVersionResponse	The result data for the GetApiVersion WSDL operation.

3.1.4.7.2.1 GetApiVersion

The **GetApiVersion** element specifies the input data for the **GetApiVersion** WSDL operation.

```
<xs:element name="GetApiVersion" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType/>  
</xs:element>
```

3.1.4.7.2.2 GetApiVersionResponse

The **GetApiVersionResponse** element specifies the result data for the **GetApiVersion** WSDL operation.

```
<xs:element name="GetApiVersionResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="GetApiVersionResult" type="xs:string"/>  
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

GetApiVersionResult: The version of the server. MUST be present.

status: MUST NOT be present.

3.1.4.7.3 Complex Types

None.

3.1.4.7.4 Simple Types

None.

3.1.4.7.5 Attributes

None.

3.1.4.7.6 Groups

None.

3.1.4.7.7 Attribute Groups

None.

3.1.4.8 GetCell

This operation is used to retrieve the contents of a specific cell in the workbook.

The following is the WSDL port type specification of the **GetCell** WSDL operation.

```
<wsdl:operation name="GetCell" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetCellSoapIn"/>
  <wsdl:output message="tns:GetCellSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetCellSoapIn** request message, and the protocol server responds with a **GetCellSoapOut** response message, as follows:

1. The row (2), column (2) on the worksheet specified by **sheetName**, specify the location of the sheet (2) cells to retrieve.
2. If **formatted** is **false**, the worksheet cell returned as the **GetCellResult** element MUST be either not present or one of the following types: **boolean**, **double**, **string**, or **CellError** (section [2.2.5.1](#)).
3. If **formatted** is true, the worksheet cell returned as the **GetCellResult** element MUST be type **string**, and MUST be formatted using a **number format** according to how the worksheet cell is number formatted in the workbook.
4. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject

Subcode
InvalidSheetName
RangeDefinitionError
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.8.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetCellSoapIn	The request WSDL message for the GetCell WSDL operation.
GetCellSoapOut	The response WSDL message for the GetCell WSDL operation.

3.1.4.8.1.1 GetCellSoapIn

The request WSDL message for the **GetCell** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetCell
```

The SOAP body contains the **GetCell** element.

3.1.4.8.1.2 GetCellSoapOut

The response WSDL message for the **GetCell** WSDL operation.

The SOAP body contains the **GetCellResponse** element.

3.1.4.8.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetCell	The input data for the GetCell WSDL operation.
GetCellResponse	The result data for the GetCell WSDL operation.

3.1.4.8.2.1 GetCell

The **GetCell** element specifies the input data for the **GetCell** WSDL operation.

```

<xs:element name="GetCell" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="row" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="column" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

sheetName: The name of the worksheet that contains the cell. See section [2.2.5.3](#). MUST be present. MUST NOT be empty.

row: The row (2) index of the cell. MUST be greater than or equal to 0 and less than or equal to 1,048,575.

column: The column (2) index of the cell. MUST be greater than or equal to 0 and less than or equal to 16,383

formatted: Specifies whether **GetCellResult** will be number formatted.

3.1.4.8.2.2 GetCellResponse

The **GetCellResponse** element specifies the result data for the **GetCell** WSDL operation.

```

<xs:element name="GetCellResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetCellResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetCellResult: The returned cell value.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.8.3 Complex Types

None.

3.1.4.8.4 Simple Types

None.

3.1.4.8.5 Attributes

None.

3.1.4.8.6 Groups

None.

3.1.4.8.7 Attribute Groups

None.

3.1.4.9 GetCellA1

This operation is used to retrieve the contents of a specific cell in the workbook.

The following is the WSDL port type specification of the **GetCellA1** WSDL operation.

```
<wsdl:operation name="GetCellA1" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetCellA1SoapIn"/>
  <wsdl:output message="tns:GetCellA1SoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetCellA1SoapIn** request message, and the protocol server responds with a **GetCellA1SoapOut** response message, as follows:

- The **rangeName** specifies the location of the sheet (2) cell to retrieve. The sheet (2) that contains the sheet (2) cell to retrieve is determined in the following manner.
- If **rangeName** specifies a sheet (2), that is the sheet (2) which MUST be used.
- Otherwise, the sheet (2) specified in **sheetName** MUST be used, as specified in section [2.2.5.3](#).
- If neither **sheetName** nor **rangeName** specify a sheet (2), the protocol server MAY [<6>](#) use any sheet (1) in the workbook.
- If **formatted** is false, the sheet (2) cell returned as the **GetCellA1Result** element MUST be either not present or one of the following types: **boolean**, **double**, **string**, or **CellError** (section [2.2.5.1](#)).
- If **formatted** is true, the sheet (2) cell returned as the **GetCellA1Result** element MUST be type **string**, and MUST be number formatted according to how the sheet (2) cell is number formatted in the workbook.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject

Subcode
InvalidSheetName
RangeDefinitionError
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.9.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetCellA1SoapIn	The request WSDL message for the GetCellA1 WSDL operation.
GetCellA1SoapOut	The response WSDL message for the GetCellA1 WSDL operation.

3.1.4.9.1.1 GetCellA1SoapIn

The request WSDL message for the **GetCellA1** WSDL operation.

The SOAP action value is:

`http://schemas.microsoft.com/office/excel/server/webservices/GetCellA1`

The SOAP body contains the **GetCellA1** element.

3.1.4.9.1.2 GetCellA1SoapOut

The response WSDL message for the **GetCellA1** WSDL operation.

The SOAP body contains the **GetCellA1Response** element.

3.1.4.9.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetCellA1	The input data for the GetCellA1 WSDL operation.
GetCellA1Response	The result data for the GetCellA1 WSDL operation.

3.1.4.9.2.1 GetCellA1

The **GetCellA1** element specifies the input data for the **GetCellA1** WSDL operation.

```

<xs:element name="GetCellA1" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) that contains the cell. See section [2.2.5.3](#) for specification. MUST be present.

rangeName: The name of the range as specified in section [2.2.5.2](#). MUST be present. MUST NOT be longer than 255 characters.

formatted: Specifies whether **GetCellA1Result** will be number formatted.

3.1.4.9.2.2 GetCellA1Response

The **GetCellA1Response** element specifies the result data for the **GetCellA1** WSDL operation.

```

<xs:element name="GetCellA1Response" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetCellA1Result"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetCellA1Result: The returned cell value.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.9.3 Complex Types

None.

3.1.4.9.4 Simple Types

None.

3.1.4.9.5 Attributes

None.

3.1.4.9.6 Groups

None.

3.1.4.9.7 Attribute Groups

None.

3.1.4.10 GetChartImageUrl

This operation returns the URL of a chart in a workbook.

The following is the WSDL port type specification of the **GetChartImageUrl** WSDL operation.

```
<wsdl:operation name="GetChartImageUrl" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetChartImageUrlSoapIn"/>
  <wsdl:output message="tns:GetChartImageUrlSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetChartUriSoapIn** request message, and the protocol server responds with a **GetChartUriSoapOut** response message as follows:

- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.10.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetChartImageUrlSoapIn	The request WSDL message for the GetChartImageUrl WSDL operation.
GetChartImageUrlSoapOut	The response WSDL message for the GetChartImageUrl WSDL operation.

3.1.4.10.1.1 GetChartImageUrlSoapIn

The request WSDL message for the **GetChartImageUrl** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetChartImageUrl
```

The SOAP body contains the **GetChartImageUrl** element.

3.1.4.10.1.2 GetChartImageUrlSoapOut

The response WSDL message for the **GetChartImageUrl** WSDL operation.

The SOAP body contains the **GetChartImageUrlResponse** element.

3.1.4.10.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetChartImageUrl	The input data for the GetChartImageUrl WSDL operation.
GetChartImageUrlResponse	The result data for the GetChartImageUrl WSDL operation.

3.1.4.10.2.1 GetChartImageUrl

The **GetChartImageUrl** element specifies the input data for the **GetChartImageUrl** WSDL operation.

```
<xs:element name="GetChartImageUrl" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="size" type="tns:Size"/>
      <xs:element minOccurs="0" maxOccurs="1" name="chartName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2) . MUST be present. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

size: The size of the chart image as defined in section [3.1.4.10.3.1](#). If not present, the original chart size will be used.

chartName: The string identifier for a chart. MUST be present. MUST be non-empty.

3.1.4.10.2.2 GetChartImageUrlResponse

The **GetChartImageUrlResponse** element specifies the result data for the **GetChartImageUrl** WSDL operation.

```
<xs:element name="GetChartImageUrlResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetChartImageUrlResult"
type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetChartImageUrlResult: The URL of the requested chart.

status: An array of **Status** elements as specified in section [2.2.4.2](#).

3.1.4.10.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
Size	Specifies the size of a chart image.

3.1.4.10.3.1 Size

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

Specifies the size of a chart image defined as follows.

```
<xs:complexType name="Size" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

Width: Specifies the width of the image to be returned. MUST be an integer greater than or equal to 4 and less than or equal to 4096, or -1. If -1, the original width of the chart will be used. Must be -1 if **Height** is -1.

Height: Specifies the height of the image to be returned. MUST be an integer greater than or equal to 4 and less than or equal to 4096, or -1. If -1, the original height of the chart will be used. MUST be -1 if **Width** is -1.

3.1.4.10.4 Simple Types

None.

3.1.4.10.5 Attributes

None.

3.1.4.10.6 Groups

None.

3.1.4.10.7 Attribute Groups

None.

3.1.4.11 GetPublishedItemNames

This operation returns a list of the published items in a workbook.

The following is the WSDL port type specification of the **GetPublishedItemNames** WSDL operation.

```
<wsdl:operation name="GetPublishedItemNames" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
```

```

    <wsdl:input message="tns:GetPublishedItemNamesSoapIn"/>
    <wsdl:output message="tns:GetPublishedItemNamesSoapOut"/>
</wsdl:operation>

```

The protocol client sends a **GetPublishedItemNamesSoapIn** request message, and the protocol server responds with a **GetPublishedItemNamesSoapOut** response message as follows:

- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.11.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetPublishedItemNamesSoapIn	The request WSDL message for the GetPublishedItemNames WSDL operation.
GetPublishedItemNamesSoapOut	The response WSDL message for the GetPublishedItemNames WSDL operation.

3.1.4.11.1.1 GetPublishedItemNamesSoapIn

The request WSDL message for the **GetPublishedItemNames** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetPublishedItemNames
```

The SOAP body contains the **GetPublishedItemNames** element.

3.1.4.11.1.2 GetPublishedItemNamesSoapOut

The response WSDL message for the **GetPublishedItemNames** WSDL operation.

The SOAP body contains the **GetPublishedItemNamesResponse** element.

3.1.4.11.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetPublishedItemNames	The input data for the GetPublishedItemNames WSDL operation.
GetPublishedItemNamesResponse	The result data for the GetPublishedItemNames WSDL operation.

3.1.4.11.2.1 GetPublishedItemNames

The **GetPublishedItemNames** element specifies the input data for the **GetPublishedItemNames** WSDL operation.

```
<xs:element name="GetPublishedItemNames" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

3.1.4.11.2.2 GetPublishedItemNamesResponse

The **GetPublishedItemNamesResponse** element specifies the result data for the **GetPublishedItemNames** WSDL operation.

```
<xs:element name="GetPublishedItemNamesResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetPublishedItemNamesResult"
type="tns:ArrayOfWorkbookItem"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPublishedItemNamesResult: An array of **WorkbookItem** elements as specified in section [3.1.4.11.3.1](#). MUST be present.

status: An array of **Status** elements as specified in section [2.2.4.2](#).

3.1.4.11.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
ArrayOfWorkbookItem	An array of WorkbookItem elements.
WorkbookItem	Specifies the name and type of a published item.

3.1.4.11.3.1 ArrayOfWorkbookItem

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

An array of **WorkbookItem** elements defined as follows.

```
<xs:complexType name="ArrayOfWorkbookItem" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="WorkbookItem" nillable="true"
      type="tns:WorkbookItem"/>
  </xs:sequence>
</xs:complexType>
```

WorkbookItem: A **WorkbookItem** as specified in section [3.1.4.11.3.2](#).

3.1.4.11.3.2 WorkbookItem

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

Specifies the name and type of a published item and is defined as follows.

```
<xs:complexType name="WorkbookItem" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:ItemType"/>
  </xs:sequence>
</xs:complexType>
```

Name: The name of the published item. **MUST** be present. **MUST NOT** be empty.

Type: The type of the published item as specified in section [3.1.4.11.4.1](#).

3.1.4.11.4 Simple Types

The following table summarizes the XML schema simple type definitions that are specific to this operation.

Simple type	Description
ItemType	Specifies the type of a published item.

3.1.4.11.4.1 ItemType

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

Specifies the type of a published item and is defined as follows.

```
<xs:simpleType name="ItemType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Chart"/>
    <xs:enumeration value="PivotTable"/>
    <xs:enumeration value="Table"/>
    <xs:enumeration value="NamedRange"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ItemType** simple type.

Value	Meaning
Chart	Specifies that the published item is a chart.
PivotTable	Specifies that the published item is a PivotTable.
Table	Specifies that the published item is a list (2).
NamedRange	Specifies that the published item is a named range.

3.1.4.11.5 Attributes

None.

3.1.4.11.6 Groups

None.

3.1.4.11.7 Attribute Groups

None.

3.1.4.12 GetRange

This operation is used to retrieve the contents of a specific range in the workbook.

The following is the WSDL port type specification of the **GetRange** WSDL operation.

```
<wsdl:operation name="GetRange" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetRangeSoapIn"/>
  <wsdl:output message="tns:GetRangeSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetRangeSoapIn** request message, and the protocol server responds with a **GetRangeSoapOut** response message, as follows:

1. The **rangeCoordinates** on the sheet (2) specified by **sheetName**, specify the location of the sheet (2) cells to retrieve.
2. Each element inside the **GetRangeResult** element MUST be of type **ArrayOfAnyType**. Each element inside **GetRangeResult** is a row (2) of sheet (1) cells returned from the protocol server. The number of rows (2) returned MUST be equal to the number of rows (2) requested in the **rangeCoordinates** element.
3. Each element inside each of the **ArrayOfAnyType** type nested inside **GetRangeResult** MUST be a single workbook sheet (2) cell. The number of elements inside each such nested **ArrayOfAnyType** MUST be equal to the number of columns (2) requested in the **rangeCoordinates** element.
4. If **formatted** is false, all sheet (2) cells returned as part of the **GetRangeResult** element MUST either be empty and have the `xsi:nil` attribute set to true or be one of the following types: **Boolean**, **double**, **string**, or **CellError** (section [2.2.5.1](#)).

5. If **formatted** is true, all sheet cells returned as part of the **GetRangeResult** element MUST be type **string**, and MUST be number formatted according to how the sheet (1) cell is number formatted in the workbook.
6. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.12.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetRangeSoapIn	The request WSDL message for the GetRange WSDL operation.
GetRangeSoapOut	The response WSDL message for the GetRange WSDL operation.

3.1.4.12.1.1 GetRangeSoapIn

The request WSDL message for the **GetRange** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetRange
```

The SOAP body contains the **GetRange** element.

3.1.4.12.1.2 GetRangeSoapOut

The response WSDL message for the **GetRange** WSDL operation.

The SOAP body contains the **GetRangeResponse** element.

3.1.4.12.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetRange	The input data for the GetRange WSDL operation.
GetRangeResponse	The result data for the GetRange WSDL operation.

3.1.4.12.2.1 GetRange

The **GetRange** element specifies the input data for the **GetRange** WSDL operation.

```
<xs:element name="GetRange" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeCoordinates"
type="tns:RangeCoordinates"/>
      <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) that contains the range. See section [2.2.5.3](#) for specification. MUST be present. MUST NOT be empty.

rangeCoordinates: The range to retrieve.

- MUST be present.
- MUST NOT be empty, as specified in section [2.2.4.4](#).
- The product of **Height** and **Width** MUST NOT be greater than 1,000,000.

formatted: Specifies whether **GetRangeResult** will be number formatted.

3.1.4.12.2.2 GetRangeResponse

The **GetRangeResponse** element specifies the result data for the **GetRange** WSDL operation.

```
<xs:element name="GetRangeResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeResult"
type="tns:ArrayOfAnyType"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```
</xs:complexType>
</xs:element>
```

GetRangeResult: The returned range value.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.12.3 Complex Types

None.

3.1.4.12.4 Simple Types

None.

3.1.4.12.5 Attributes

None.

3.1.4.12.6 Groups

None.

3.1.4.12.7 Attribute Groups

None.

3.1.4.13 GetRangeA1

This operation is used to retrieve the contents of a named range in the workbook.

The following is the WSDL port type specification of the **GetRangeA1** WSDL operation.

```
<wsdl:operation name="GetRangeA1" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetRangeA1SoapIn"/>
  <wsdl:output message="tns:GetRangeA1SoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetRangeA1SoapIn** request message, and the protocol server responds with a **GetRangeA1SoapOut** response message, as follows:

- The **rangeName** specifies the named range of the cells on the sheet (2) to retrieve. The sheet (2) that contains the sheet (2) cells to retrieve is determined in the following manner:
- If **rangeName** specifies a sheet (2), that is the sheet (2) that MUST be used.
- Otherwise, the sheet (2) specified in **sheetName** MUST be used, as specified in section [2.2.5.3](#). If neither **sheetName** nor **rangeName** specify a sheet (2), the protocol server MAY [<7>](#) use any sheet (2) in the workbook.
- Each element inside the **GetRangeA1Result** element MUST be of type **ArrayOfAnyType**. Each element inside the **GetRangeA1Result** is a row (2) of sheet (1) cells returned from the protocol server. The number of rows (2) MUST be equal to the rows (2) in the named range specified by **rangeName**.

- Each element inside each of the **ArrayOfAnyType** type nested inside **GetRangeA1Result** MUST be a single workbook sheet (2) cell. The number of elements inside each such nested **ArrayOfAnyType** MUST be equal to the number of columns (2) in the named range specified by **rangeName**.
- If **formatted** is false, all sheet (2) cells returned as part of the **GetRangeA1Result** element MUST either be empty and have the `xsi:nil` attribute set to true or be one of the following types: **Boolean**, **double**, **string**, or [CellError](#) (section [2.2.5.1](#)).
- If **formatted** is true, all sheet (2) cells returned as part of the **GetRangeA1Result** element MUST be type **string**, and MUST be number formatted according to how the sheet (2) cell is number formatted in the workbook.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
DiscontiguousRangeNotSupported
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError
RangeParseError
RangeRequestAreaExceeded
SheetRangeMismatch

3.1.4.13.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetRangeA1SoapIn	The request WSDL message for the GetRangeA1 WSDL operation.
GetRangeA1SoapOut	The response WSDL message for the GetRangeA1 WSDL operation.

3.1.4.13.1.1 GetRangeA1SoapIn

The request WSDL message for the **GetRangeA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetRangeA1
```

The SOAP body contains the **GetRangeA1** element.

3.1.4.13.1.2 GetRangeA1SoapOut

The response WSDL message for the **GetRangeA1** WSDL operation.

The SOAP body contains the **GetRangeA1Response** element.

3.1.4.13.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetRangeA1	The input data for the GetRangeA1 WSDL operation.
GetRangeA1Response	The result data for the GetRangeA1 WSDL operation.

3.1.4.13.2.1 GetRangeA1

The **GetRangeA1** element specifies the input data for the **GetRangeA1** WSDL operation.

```
<xs:element name="GetRangeA1" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (1) on which the **rangeName** is defined. See section [2.2.5.3](#) for specification. MUST be present.

rangeName: The name of the range as specified in section [2.2.5.2](#). MUST be present. MUST NOT be longer than 255 characters.

formatted: Specifies whether **GetRangeA1Result** will be number formatted.

3.1.4.13.2.2 GetRangeA1Response

The **GetRangeA1Response** element specifies the result data for the **GetRangeA1** WSDL operation.

```
<xs:element name="GetRangeA1Response" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeA1Result"
        type="tns:ArrayOfAnyType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```
<xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
</xs:sequence>
</xs:complexType>
</xs:element>
```

GetRangeA1Result: The returned range value.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.13.3 Complex Types

None.

3.1.4.13.4 Simple Types

None.

3.1.4.13.5 Attributes

None.

3.1.4.13.6 Groups

None.

3.1.4.13.7 Attribute Groups

None.

3.1.4.14 GetSessionInformation

This operation retrieves information about a session (2) on the protocol server.

The following is the WSDL port type specification of the **GetSessionInformation** WSDL operation.

```
<wsdl:operation name="GetSessionInformation" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetSessionInformationSoapIn"/>
  <wsdl:output message="tns:GetSessionInformationSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetSessionInformationSoapIn** request message, and the protocol server responds with a **GetSessionInformationSoapOut** response message, as follows:

- The protocol server MUST return the UI culture and the data culture for the specified session (2). These are the languages specified in the [OpenWorkbook](#) operation or the languages that the protocol server fell back to, as specified in [OpenWorkbook](#).
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in [Common List of Subcodes](#), but MAY instead contain any subcode specified in [List of Subcodes](#) or any other subcode.

3.1.4.14.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetSessionInformationSoapIn	The request WSDL message for the GetSessionInformation WSDL operation.
GetSessionInformationSoapOut	The response WSDL message for the GetSessionInformation WSDL operation.

3.1.4.14.1.1 GetSessionInformationSoapIn

The request WSDL message for the **GetSessionInformation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetSessionInformation
```

The SOAP body contains the **GetSessionInformation** element.

3.1.4.14.1.2 GetSessionInformationSoapOut

The response WSDL message for the **GetSessionInformation** WSDL operation.

The SOAP body contains the **GetSessionInformationResponse** element.

3.1.4.14.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetSessionInformation	The input data for the GetSessionInformation WSDL operation.
GetSessionInformationResponse	The result data for the GetSessionInformation WSDL operation.

3.1.4.14.2.1 GetSessionInformation

The **GetSessionInformation** element specifies the input data for the **GetSessionInformation** WSDL operation.

```
<xs:element name="GetSessionInformation" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

sessionId: A session identifier (2). MUST be present. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

3.1.4.14.2.2 GetSessionInformationResponse

The **GetSessionInformationResponse** element specifies the result data for the **GetSessionInformation** WSDL operation.

```
<xs:element name="GetSessionInformationResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="serverVersion" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="uiCultureNameUsed" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="dataCultureNameUsed" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

serverVersion: The version of the server. MUST be present.

uiCultureNameUsed: The UI culture. MUST be present. MUST be a language tag, as specified in [\[RFC1766\]](#) section 2.

dataCultureNameUsed: The data culture. MUST be present. MUST be a language tag, as specified in [\[RFC1766\]](#) section 2.

status: An array of **Status** elements as specified in section [2.2.4.2](#).

3.1.4.14.3 Complex Types

None.

3.1.4.14.4 Simple Types

None.

3.1.4.14.5 Attributes

None.

3.1.4.14.6 Groups

None.

3.1.4.14.7 Attribute Groups

None.

3.1.4.15 GetSheetNames

The operation returns information about the sheets in a workbook.

The following is the WSDL port type specification of the **GetSheetNames** WSDL operation.

```
<wsdl:operation name="GetSheetNames" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetSheetNamesSoapIn"/>
  <wsdl:output message="tns:GetSheetNamesSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetSheetNamesSoapIn** request message, and the protocol server responds with a **GetSheetNamesSoapOut** response message, as follows:

- If the session (2) is a view session in view-only mode, the number of elements inside **GetSheetNamesResult** MUST be equal to the number of visible **published sheets** in the workbook.
- If the session (2) is not a view session in view-only mode, the number of elements inside **GetSheetNamesResult** MUST be equal to the number of loaded sheets (1) in the workbook.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.15.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetSheetNamesSoapIn	The request WSDL message for the GetSheetNames WSDL operation.
GetSheetNamesSoapOut	The response WSDL message for the GetSheetNames WSDL operation.

3.1.4.15.1.1 GetSheetNamesSoapIn

The request WSDL message for the **GetSheetNames** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetSheetNames
```

The SOAP body contains the **GetSheetNames** element.

3.1.4.15.1.2 GetSheetNamesSoapOut

The response WSDL message for the **GetSheetNames** WSDL operation.

The SOAP body contains the **GetSheetNamesResponse** element.

3.1.4.15.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetSheetNames	The input data for the GetSheetNames WSDL operation.
GetSheetNamesResponse	The result data for the GetSheetNames WSDL operation.

3.1.4.15.2.1 GetSheetNames

The **GetSheetNames** element specifies the input data for the **GetSheetNames** WSDL operation.

```
<xs:element name="GetSheetNames" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

3.1.4.15.2.2 GetSheetNamesResponse

The **GetSheetNamesResponse** element specifies the result data for the **GetSheetNames** WSDL operation.

```
<xs:element name="GetSheetNamesResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetSheetNamesResult"
type="tns:ArrayOfSheetInfo"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetSheetNamesResult: An array of **SheetInfo** elements as specified in section [3.1.4.15.3.1](#). MUST be present.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.15.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
ArrayOfSheetInfo	An array of SheetInfo elements.
SheetInfo	Specifies the name , type , and visible condition of a sheet (1).

3.1.4.15.3.1 ArrayOfSheetInfo

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

An array of **SheetInfo** elements defined as follows.

```
<xs:complexType name="ArrayOfSheetInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="SheetInfo" nillable="true"
type="tns:SheetInfo"/>
  </xs:sequence>
</xs:complexType>
```

SheetInfo: A **SheetInfo** as specified in section [3.1.4.15.3.2](#).

3.1.4.15.3.2 SheetInfo

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

Specifies the **name**, **type**, and visible condition of a sheet (1) and is defined as follows.

```
<xs:complexType name="SheetInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:SheetType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Visibility" type="tns:SheetVisibility"/>
  </xs:sequence>
</xs:complexType>
```

Name: The name of the sheet (1). MUST be present.

Type: The type of the sheet (1) as specified in section [3.1.4.15.4.1](#).

Visibility: The visible condition of the sheet (1) as specified in section [3.1.4.15.4.2](#).

3.1.4.15.4 Simple Types

The following table summarizes the XML schema simple type definitions that are specific to this operation.

Simple type	Description
SheetType	Specifies the type of a sheet (1).
SheetVisibility	Specifies the visible condition of a sheet (1).

3.1.4.15.4.1 SheetType

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

Specifies the type of a sheet (1) and is defined as follows.

```
<xs:simpleType name="SheetType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
```



```

    <xs:enumeration value="Worksheet"/>
    <xs:enumeration value="Chartsheet"/>
  </xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for the **SheetType** simple type.

Value	Meaning
Worksheet	A worksheet.
Chartsheet	A chart sheet .

3.1.4.15.4.2 SheetVisibility

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

Specifies the visible condition of a sheet (1) and is defined as follows.

```

<xs:simpleType name="SheetVisibility" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Visible"/>
    <xs:enumeration value="Hidden"/>
    <xs:enumeration value="VeryHidden"/>
  </xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for the **SheetVisibility** simple type.

Value	Meaning
Visible	Specifies that the sheet (1) is visible.
Hidden	Specifies that the sheet (1) is not visible, but can be unhidden via the client UI.
VeryHidden	Specifies that the sheet (1) is not visible and cannot be unhidden via the client UI.

3.1.4.15.5 Attributes

None.

3.1.4.15.6 Groups

None.

3.1.4.15.7 Attribute Groups

None.

3.1.4.16 GetWorkbook

This operation is used to retrieve a workbook file.

The following is the WSDL port type specification of the **GetWorkbook** WSDL operation.

```

<wsdl:operation name="GetWorkbook" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetWorkbookSoapIn"/>
  <wsdl:output message="tns:GetWorkbookSoapOut"/>
</wsdl:operation>

```

The protocol client sends a **GetWorkbookSoapIn** request message, and the protocol server responds with a **GetWorkbookSoapOut** response message, as follows:

- If **workbookType** is **FullWorkbook** or **FullSnapshot** and the user does not have Open Item permission, the protocol server returns a SOAP fault with subcode **EcsSnapshotAccessDenied**.
- If the protocol server cannot retrieve the workbook file in the form specified by **workbookType**, the protocol server returns a SOAP fault with subcode **SaveFailed**.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section 2.2.9.2, but MAY instead contain any subcode specified in section 2.2.9.1 or any other subcode.

Subcode
EcsSnapshotAccessDenied
SaveFailed

3.1.4.16.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetWorkbookSoapIn	The request WSDL message for the GetWorkbook WSDL operation.
GetWorkbookSoapOut	The response WSDL message for the GetWorkbook WSDL operation.

3.1.4.16.1.1 GetWorkbookSoapIn

The request WSDL message for the **GetWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetWorkbook
```

The SOAP body contains the **GetWorkbook** element.

3.1.4.16.1.2 GetWorkbookSoapOut

The response WSDL message for the **GetWorkbook** WSDL operation.

The SOAP body contains the **GetWorkbookResponse** element.

3.1.4.16.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetWorkbook	The input data for the GetWorkbook WSDL operation.
GetWorkbookResponse	The result data for the GetWorkbook WSDL operation.

3.1.4.16.2.1 GetWorkbook

The **GetWorkbook** element specifies the input data for the **GetWorkbook** WSDL operation.

```
<xs:element name="GetWorkbook" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="workbookType" type="tns:WorkbookType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session (2) identifier. MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

workbookType: The form of the requested workbook as specified in section [2.2.5.4](#).

3.1.4.16.2.2 GetWorkbookResponse

The **GetWorkbookResponse** element specifies the result data for the **GetWorkbook** WSDL operation.

```
<xs:element name="GetWorkbookResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetWorkbookResult"
type="xs:base64Binary"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetWorkbookResult: A workbook file. MUST be present.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.16.3 Complex Types

None.

3.1.4.16.4 Simple Types

None.

3.1.4.16.5 Attributes

None.

3.1.4.16.6 Groups

None.

3.1.4.16.7 Attribute Groups

None.

3.1.4.17 GetWorkbookConnections

Returns a list of data connection (2) names in the workbook.

The following is the WSDL port type specification of the **GetWorkbookConnections** WSDL operation.

```
<wsdl:operation name="GetWorkbookConnections" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetWorkbookConnectionsSoapIn"/>
  <wsdl:output message="tns:GetWorkbookConnectionsSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetWorkbookConnectionsSoapIn** request WSDL message, and the protocol server responds with a **GetWorkbookConnectionsSoapOut** response WSDL message, as follows:

- The protocol server returns a list of the data connection (2) names.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.17.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
GetWorkbookConnectionsSoapIn	The request WSDL message for the GetWorkbookConnections WSDL operation.
GetWorkbookConnectionsSoapOut	The response WSDL message for the GetWorkbookConnections WSDL operation.

3.1.4.17.1.1 GetWorkbookConnectionsSoapIn

The request WSDL message for the **GetWorkbookConnections** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/GetWorkbookConnections
```

The SOAP body contains the **GetWorkbookConnections** element.

3.1.4.17.1.2 GetWorkbookConnectionsSoapOut

The response WSDL message for the **GetWorkbookConnections** WSDL operation.

The SOAP body contains the **GetWorkbookConnectionsResponse** element.

3.1.4.17.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetWorkbookConnections	The input data for the GetWorkbookConnections WSDL operation.
GetWorkbookConnectionsResponse	The result data for the GetWorkbookConnections WSDL operation.

3.1.4.17.2.1 GetWorkbookConnections

The **GetWorkbookConnections** element specifies the input data for the **GetWorkbookConnections** WSDL operation.

```
<xs:element name="GetWorkbookConnections" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

sessionId: A session (2) identifier. MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

3.1.4.17.2.2 GetWorkbookConnectionsResponse

The **GetWorkbookConnectionsResponse** element specifies the result data for the **GetWorkbookConnections** WSDL operation.

```
<xs:element name="GetWorkbookConnectionsResponse"  
  xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="GetWorkbookConnectionsResult"  
        type="tns:ArrayOfString"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

```
<xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
</xs:sequence>
</xs:complexType>
</xs:element>
```

GetWorkbookConnectionsResult: An array of data connection (2) names.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.17.3 Complex Types

None.

3.1.4.17.4 Simple Types

None.

3.1.4.17.5 Attributes

None.

3.1.4.17.6 Groups

None.

3.1.4.17.7 Attribute Groups

None.

3.1.4.18 NewWorkbook

This operation is used to create a new workbook session.

The following is the WSDL port type specification of the **NewWorkbook** WSDL operation.

```
<wsdl:operation name="NewWorkbook" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:NewWorkbookSoapIn"/>
  <wsdl:output message="tns:NewWorkbookSoapOut"/>
</wsdl:operation>
```

If the language represented by **uiCultureName** is unsupported on the protocol server, the protocol server MAY [<8>](#) fall back to some other supported language. **uiCultureName** MAY [<9>](#) be empty, in which case the determination of which language to default to is protocol-server-implementation specific.

If the language represented by **dataCultureName** is unsupported on the protocol server, the protocol server MAY [<10>](#) fall back to some other supported language. **dataCultureName** MAY [<11>](#) be empty, in which case the determination of which language to default to is protocol-server-implementation specific.

If the operation succeeds, the protocol server MUST return the session identifier (2) of the newly created session (2) in the response message, to be used in any future operations in the newly created session.

If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section 2.2.9.2, but MAY instead contain any subcode specified in section 2.2.9.1 or any other subcode.

3.1.4.18.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
NewWorkbookSoapIn	The request WSDL message for the NewWorkbook WSDL operation.
NewWorkbookSoapOut	The response WSDL message for the NewWorkbook WSDL operation.

3.1.4.18.1.1 NewWorkbookSoapIn

The request WSDL message for the **NewWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/NewWorkbook
```

The SOAP body contains the **NewWorkbook** element.

3.1.4.18.1.2 NewWorkbookSoapOut

The response WSDL message for the **NewWorkbook** WSDL operation.

The SOAP body contains the **NewWorkbookResponse** element.

3.1.4.18.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
NewWorkbook	The input data for the NewWorkbook WSDL operation.
NewWorkbookResponse	The result data for the NewWorkbook WSDL operation.

3.1.4.18.2.1 NewWorkbook

The **NewWorkbook** element specifies the input data for the **NewWorkbook** WSDL operation.

```
<xs:element name="NewWorkbook" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="path" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
```

</xs:element>

path: The **trusted location** (2) of the new workbook session. MUST be present. MUST NOT be empty. MUST NOT be longer than 4095 characters. MUST be a **UNC**, or a **URI** as specified in [\[RFC2396\]](#).

uiCultureName: A language tag, as specified in [\[RFC1766\]](#), Section 2. Specifies the UI culture. MUST NOT be longer than 4095 characters.

dataCultureName: A language tag, as specified in [\[RFC1766\]](#), Section 2. Specifies the data culture. MUST NOT be longer than 4095 characters.

3.1.4.18.2 NewWorkbookResponse

The **NewWorkbookResponse** element specifies the result data for the **NewWorkbook** WSDL operation.

```
<xs:element name="NewWorkbookResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="NewWorkbookResult" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

NewWorkbookResult: The session identifier (2) of the newly created session (2). MUST be present.

status: The status information returned by the protocol server.

3.1.4.18.3 Complex Types

None.

3.1.4.18.4 Simple Types

None.

3.1.4.18.5 Attributes

None.

3.1.4.18.6 Groups

None.

3.1.4.18.7 Attribute Groups

None.

3.1.4.19 OpenWorkbook

This operation is used to create a new view session, giving access to a workbook on the protocol server.

The following is the WSDL port type specification of the **OpenWorkbook** WSDL operation.

```
<wsdl:operation name="OpenWorkbook" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:OpenWorkbookSoapIn"/>
  <wsdl:output message="tns:OpenWorkbookSoapOut"/>
</wsdl:operation>
```

The protocol client sends an **OpenWorkbookSoapIn** request message, and the protocol server responds with an **OpenWorkbookSoapOut** response message, as follows:

1. The workbook file, specified by **workbookPath**, is specified as follows:
 1. It SHOULD be in a format specified by [\[MS-XLSB\]](#), [\[ISO/IEC29500-1:2011\]](#), [\[MS-OFFMACRO2\]](#), or [\[ODF\]](#), but MAY be in any other format.
 2. If it is in the [\[ISO/IEC29500-1:2011\]](#) format:
 1. It MAY [<12>](#) contain any valid SpreadsheetML records in that format.
 2. If a **odcFile** attribute of a **connection** element ([\[ISO/IEC29500-1:2011\]](#), Part 1, Section 18.13.1) is present, it SHOULD be the path of a file in the format specified by [\[MS-ODCFF\]](#).
 3. If a **connection** attribute of **dbPr** element ([\[ISO/IEC29500-1:2011\]](#), Part 1, Section 18.13.3) is present, it SHOULD be in the format specified by [\[MS-ODBCSTR\]](#) or [\[MS-OLEDDBSTR\]](#).
 3. If it is in the [MS-XLSB] format:
 1. It MAY [<13>](#) contain any valid records in that format.
 2. If a **brtBeginExternalConnection** record is present and it has the **stConnectionFile** field present, the **stConnectionFile** SHOULD be the path of a file in the format specified by [\[MS-ODCFF\]](#).
 3. If a **BrtBeginECDBProps** record is present, its **stConn** field SHOULD be in the format specified by [\[MS-ODBCSTR\]](#) or [\[MS-OLEDDBSTR\]](#).
 4. If a file in [MS-ODCFF] is referenced by the workbook file:
 1. **SourceFile** element of **OfficeDataConnection** ([\[MS-ODCFF\]](#) section 2.7.1.1) MUST NOT be present.
 2. **Parameter** elements of **CT_Connection** ([\[MS-ODCFF\]](#) section 2.7.1.1) MUST be ignored.
2. If the language represented by **uiCultureName** is unsupported on the protocol server, the protocol server MAY [<14>](#) fall back to some other supported language. **uiCultureName** MAY [<15>](#) be empty, in which case the determination of which language to default to is protocol-server-implementation specific.
3. If the language represented by **dataCultureName** is unsupported on the protocol server, the protocol server MAY [<16>](#) fall back to some other supported language. **dataCultureName**

MAY<17> be empty, in which case the determination of which language to default to is protocol-server-implementation specific.

4. If the operation succeeds, the protocol server MUST return the session identifier (2) of the newly created session (2) in the response message, to be used in any future operations in the newly created session (2).
5. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section 2.2.9.2, but MAY instead contain any subcode specified in section 2.2.9.1 or any other subcode.

Subcode
FileOpenNotFound
FileOpenAccessDenied
FileCorrupt
GenericFileOpenError
WorkbookNotSupported

3.1.4.19.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
OpenWorkbookSoapIn	The request WSDL message for the OpenWorkbook WSDL operation.
OpenWorkbookSoapOut	The response WSDL message for the OpenWorkbook WSDL operation.

3.1.4.19.1.1 OpenWorkbookSoapIn

The request WSDL message for the **OpenWorkbook** WSDL operation.

The SOAP action value is:

`http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbook`

The SOAP body contains the **OpenWorkbook** element.

3.1.4.19.1.2 OpenWorkbookSoapOut

The response WSDL message for the **OpenWorkbook** WSDL operation.

The SOAP body contains the **OpenWorkbookResponse** element.

3.1.4.19.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
OpenWorkbook	The input data for the OpenWorkbook WSDL operation.
OpenWorkbookResponse	The result data for the OpenWorkbook WSDL operation.

3.1.4.19.2.1 OpenWorkbook

The **OpenWorkbook** element specifies the input data for the **OpenWorkbook** WSDL operation.

```
<xs:element name="OpenWorkbook" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

workbookPath: The location of the workbook file. MUST be present. MUST NOT be empty. MUST NOT be longer than 4095 characters. MUST be a URI as specified in [\[RFC2396\]](#), or a UNC.

uiCultureName: A language tag, as specified in [\[RFC1766\]](#), Section 2. Specifies the UI culture. MUST NOT be longer than 4095 characters.

dataCultureName: A language tag, as specified in [\[RFC1766\]](#), Section 2. Specifies the data culture. MUST NOT be longer than 4095 characters.

3.1.4.19.2.2 OpenWorkbookResponse

The **OpenWorkbookResponse** element specifies the result data for the **OpenWorkbook** WSDL operation.

```
<xs:element name="OpenWorkbookResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookResult" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

OpenWorkbookResult: The session identifier (2) of the newly created session (2). MUST be present.

status: The status information returned by the protocol server.

3.1.4.19.3 Complex Types

None.

3.1.4.19.4 Simple Types

None.

3.1.4.19.5 Attributes

None.

3.1.4.19.6 Groups

None.

3.1.4.19.7 Attribute Groups

None.

3.1.4.20 OpenWorkbookEx

This operation is used to create a new view session, giving access to a workbook on the protocol server.

The following is the WSDL port type specification of the **OpenWorkbookEx** WSDL operation.

```
<wsdl:operation name="OpenWorkbookEx" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:OpenWorkbookExSoapIn"/>
  <wsdl:output message="tns:OpenWorkbookExSoapOut"/>
</wsdl:operation>
```

For details, see the **OpenWorkbook** operation (section [3.1.4.19](#)). When processing the **OpenWorkbookEx** operation the protocol server MUST suppress connected data refresh.

3.1.4.20.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
OpenWorkbookExSoapIn	The request WSDL message for the OpenWorkbookEx WSDL operation.
OpenWorkbookExSoapOut	The response WSDL message for the OpenWorkbookEx WSDL operation.

3.1.4.20.1.1 OpenWorkbookExSoapIn

The request WSDL message for the **OpenWorkbookEx** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbookEx
```

The SOAP body contains the **OpenWorkbookEx** element.

3.1.4.20.1.2 OpenWorkbookExSoapOut

The response WSDL message for the **OpenWorkbookEx** WSDL operation.

The SOAP body contains the **OpenWorkbookExResponse** element.

3.1.4.20.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
OpenWorkbookEx	The input data for the OpenWorkbookEx WSDL operation.
OpenWorkbookExResponse	The result data for the OpenWorkbookEx WSDL operation.

3.1.4.20.2.1 OpenWorkbookEx

The **OpenWorkbookEx** element specifies the input data for the **OpenWorkbookEx** WSDL operation.

```
<xs:element name="OpenWorkbookEx" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="exclusive" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

workbookPath: See section [3.1.4.19.2.1](#).

uiCultureName: See section [3.1.4.19.2.1](#).

dataCultureName: See section [3.1.4.19.2.1](#).

exclusive: If true, the data model in the new view session MUST not be shared with any other sessions, and the database where the model will be loaded (as specified in section [3.1.4.6.3.1](#)) MUST NOT be read-only.

3.1.4.20.2.2 OpenWorkbookExResponse

The **OpenWorkbookExResponse** element specifies the result data for the **OpenWorkbookEx** WSDL operation.

```
<xs:element name="OpenWorkbookExResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookExResult" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
```

</xs:element>

OpenWorkbookExResult: See section [3.1.4.19.2.2](#).

status: See section [3.1.4.19.2.2](#).

3.1.4.20.3 Complex Types

None.

3.1.4.20.4 Simple Types

None.

3.1.4.20.5 Attributes

None.

3.1.4.20.6 Groups

None.

3.1.4.20.7 Attribute Groups

None.

3.1.4.21 OpenWorkbookForEditing

This operation is used to create a new edit session, giving access to a workbook on the protocol server.

The following is the WSDL port type specification of the **OpenWorkbookForEditing** WSDL operation.

```
<wsdl:operation name="OpenWorkbookForEditing" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:OpenWorkbookForEditingSoapIn"/>
  <wsdl:output message="tns:OpenWorkbookForEditingSoapOut"/>
</wsdl:operation>
```

The protocol client sends an **OpenWorkbookForEditingSoapIn** request message, and the protocol server responds with an **OpenWorkbookForEditingSoapOut** response message, as follows:

1. The workbook file, specified by **workbookPath**, is specified as follows:
 1. It SHOULD be in a format specified by [\[MS-XLSB\]](#), [\[ISO/IEC29500-1:2011\]](#), [\[MS-OFFMACRO2\]](#), or [\[ODF\]](#), but MAY be in any other format.
 2. If it is in the [\[ISO/IEC29500-1:2011\]](#) format:
 1. It MAY [<18>](#) contain any valid SpreadsheetML records in that format.
 2. If an **odcFile** attribute of a **connection** element ([\[ISO/IEC29500-1:2011\]](#), Part 1, Section 18.13.1) is present, it SHOULD be the path of a file in the format specified by [\[MS-ODCFF\]](#).

3. If a **connection** attribute of **dbPr** element ([\[ISO/IEC29500-1:2011\]](#), Part 1, Section 18.13.3) is present, it SHOULD be in the format specified by [\[MS-ODBCSTR\]](#) or [\[MS-OLEDBSTR\]](#).
3. If it is in the [MS-XLSB] format:
 1. It MAY [<19>](#) contain any valid records in that format.
 2. If a **brtBeginExternalConnection** record is present and it has the **stConnectionFile** field present, the **stConnectionFile** SHOULD be the path of a file in the format specified by [MS-ODCFF].
 3. If a **BrtBeginECDBProps** record is present, its **stConn** field SHOULD be in the format specified by [MS-ODBCSTR] or [MS-OLEDBSTR].
4. If a file in [MS-ODCFF] is referenced by the workbook file:
 1. **SourceFile** element of **OfficeDataConnection** ([\[MS-ODCFF\]](#) section 2.7.1.1) MUST NOT be present.
 2. **Parameter** elements of **CT_Connection** ([\[MS-ODCFF\]](#) section 2.2.1) MUST be ignored.
2. If the language represented by **uiCultureName** is unsupported on the protocol server, the protocol server MAY [<20>](#) fall back to some other supported language. **uiCultureName** MAY [<21>](#) be empty, in which case the determination of which language to default to is protocol-server-implementation specific.
3. If the language represented by **dataCultureName** is unsupported on the protocol server, the protocol server MAY [<22>](#) fall back to some other supported language. **dataCultureName** MAY [<23>](#) be empty, in which case the determination of which language to default to is protocol-server-implementation specific.
4. If the operation succeeds, the protocol server MUST return the session identifier (2) of the newly created session (2) in the response message, to be used in any future operations in the newly created session (2).
5. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
FileOpenNotFound
FileOpenAccessDenied
FileCorrupt
GenericFileOpenError

3.1.4.21.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
OpenWorkbookForEditingSoapIn	The request WSDL message for the OpenWorkbookForEditing WSDL operation.
OpenWorkbookForEditingSoapOut	The response WSDL message for the OpenWorkbookForEditing WSDL operation.

3.1.4.21.1.1 OpenWorkbookForEditingSoapIn

The request WSDL message for the **OpenWorkbookForEditing** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbookForEditing
```

The SOAP body contains the **OpenWorkbookForEditing** element.

3.1.4.21.1.2 OpenWorkbookForEditingSoapOut

The response WSDL message for the **OpenWorkbookForEditing** WSDL operation.

The SOAP body contains the **OpenWorkbookForEditingResponse** element.

3.1.4.21.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
OpenWorkbookForEditing	The input data for the OpenWorkbookForEditing WSDL operation.
OpenWorkbookForEditingResponse	The result data for the OpenWorkbookForEditing WSDL operation.

3.1.4.21.2.1 OpenWorkbookForEditing

The **OpenWorkbookForEditing** element specifies the input data for the **OpenWorkbookForEditing** WSDL operation.

```
<xs:element name="OpenWorkbookForEditing" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

workbookPath: The location of the workbook file. MUST be present. MUST NOT be empty. MUST NOT be longer than 4095 characters. MUST be a URI as specified in [\[RFC2396\]](#), or a UNC.

uiCultureName: A language tag, as specified in [\[RFC1766\]](#), Section 2. Specifies the UI culture. MUST NOT be longer than 4095 characters.

dataCultureName: A language tag, as specified in [\[RFC1766\]](#), Section 2. Specifies the data culture. MUST NOT be longer than 4095 characters.

3.1.4.21.2.2 OpenWorkbookForEditingResponse

The **OpenWorkbookForEditingResponse** element specifies the result data for the **OpenWorkbookForEditing** WSDL operation.

```
<xs:element name="OpenWorkbookForEditingResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookForEditingResult"
        type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

OpenWorkbookForEditingResult: The session identifier (2) of the newly created session (2). MUST be present.

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.21.3 Complex Types

None.

3.1.4.21.4 Simple Types

None.

3.1.4.21.5 Attributes

None.

3.1.4.21.6 Groups

None.

3.1.4.21.7 Attribute Groups

None.

3.1.4.22 Refresh

This operation is used to refresh connected data on a workbook.

The following is the WSDL port type specification of the **Refresh** WSDL operation.

```
<wsdl:operation name="Refresh" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RefreshSoapIn"/>
```

```
<wsdl:output message="tns:RefreshSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **RefreshSoapIn** request message, and the protocol server responds with a **RefreshSoapOut** response message, as follows:

1. If **connectionName** is not present or is empty, the protocol server refreshes all data connections (2) in the workbook if any exist. If **connectionName** is present and is not empty, the protocol server refreshes the specified data connections (2) in the workbook.
2. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.22.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
RefreshSoapIn	The request WSDL message for the Refresh WSDL operation.
RefreshSoapOut	The response WSDL message for the Refresh WSDL operation.

3.1.4.22.1.1 RefreshSoapIn

The request WSDL message for the **Refresh** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/Refresh
```

The SOAP body contains the **Refresh** element.

3.1.4.22.1.2 RefreshSoapOut

The response WSDL message for the **Refresh** WSDL operation.

The SOAP body contains the **RefreshResponse** element.

3.1.4.22.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
Refresh	The input data for the Refresh WSDL operation.
RefreshResponse	The result data for the Refresh WSDL operation.

3.1.4.22.2.1 Refresh

The **Refresh** element specifies the input data for the **Refresh** WSDL operation.

```
<xs:element name="Refresh" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="connectionName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

connectionName: A name of a data connection (2) in the workbook. MUST NOT be longer than 255 characters.

3.1.4.22.2.2 RefreshResponse

The **RefreshResponse** element specifies the result data for the **Refresh** WSDL operation.

```
<xs:element name="RefreshResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

status: An array of **Status** elements as specified in section [2.2.4.2](#).

3.1.4.22.3 Complex Types

None.

3.1.4.22.4 Simple Types

None.

3.1.4.22.5 Attributes

None.

3.1.4.22.6 Groups

None.

3.1.4.22.7 Attribute Groups

None.

3.1.4.23 RefreshEx

This operation is used to refresh connected data on a workbook.

The following is the WSDL port type specification of the **RefreshEx** WSDL operation.

```
<wsdl:operation name="RefreshEx" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RefreshExSoapIn"/>
  <wsdl:output message="tns:RefreshExSoapOut"/>
</wsdl:operation>
```

For details, see the **Refresh** operation (section [3.1.4.22](#)).

3.1.4.23.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
RefreshExSoapIn	The request WSDL message for the RefreshEx WSDL operation.
RefreshExSoapOut	The response WSDL message for the RefreshEx WSDL operation.

3.1.4.23.1.1 RefreshExSoapIn

The request WSDL message for the **RefreshEx** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/RefreshEx
```

The SOAP body contains the **RefreshEx** element.

3.1.4.23.1.2 RefreshExSoapOut

The response WSDL message for the **RefreshEx** WSDL operation.

The SOAP body contains the **RefreshExResponse** element.

3.1.4.23.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
RefreshEx	The input data for the RefreshEx WSDL operation.
RefreshExResponse	The result data for the RefreshEx WSDL operation.

3.1.4.23.2.1 RefreshEx

The **RefreshEx** element specifies the input data for the **RefreshEx** WSDL operation.

```
<xs:element name="RefreshEx" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="connectionName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="targetApplicationId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

connectionName: A name of a data connection (2) in the workbook. MUST NOT be longer than 255 characters.

targetApplicationId: Single Sign On identifier, as defined in [\[ISO/IEC29500-1:2012\]](#) section 18.13.1, used when refreshing data connections (2).

3.1.4.23.2.2 RefreshExResponse

The **RefreshExResponse** element specifies the result data for the **RefreshEx** WSDL operation.

```
<xs:element name="RefreshExResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

status: An array of **Status** elements as specified in section [2.2.4.2](#).

3.1.4.23.3 Complex Types

None.

3.1.4.23.4 Simple Types

None.

3.1.4.23.5 Attributes

None.

3.1.4.23.6 Groups

None.

3.1.4.23.7 Attribute Groups

None.

3.1.4.24 SaveWorkbook

This operation is used to save a workbook associated with an open session (2) to the same location from which it was opened.

The following is the WSDL port type specification of the **SaveWorkbook** WSDL operation.

```
<wsdl:operation name="SaveWorkbook" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SaveWorkbookSoapIn"/>
  <wsdl:output message="tns:SaveWorkbookSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **SaveWorkbookSoapIn** request message, and the protocol server responds with a **SaveWorkbookSoapOut** response message.

If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
FileSaveGeneric
OperationNotSupportedInViewOnly
SaveFailed
SavingUnsupportedInViewMode
SavingWorkbookAccessDenied
SavingWorkbookLockedOrCheckedOut
SavingWorkbookNoWorkbookName

3.1.4.24.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SaveWorkbookSoapIn	The request WSDL message for the SaveWorkbook WSDL operation.
SaveWorkbookSoapOut	The response WSDL message for the SaveWorkbook WSDL operation.

3.1.4.24.1.1 SaveWorkbookSoapIn

The request WSDL message for the **SaveWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SaveWorkbook
```

The SOAP body contains the **SaveWorkbook** element.

3.1.4.24.1.2 SaveWorkbookSoapOut

The response WSDL message for the **SaveWorkbook** WSDL operation.

The SOAP body contains the **SaveWorkbookResponse** element.

3.1.4.24.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SaveWorkbook	The input data for the SaveWorkbook WSDL operation.
SaveWorkbookResponse	The result data for the SaveWorkbook WSDL operation.

3.1.4.24.2.1 SaveWorkbook

The **SaveWorkbook** element specifies the input data for the **SaveWorkbook** WSDL operation.

```
<xs:element name="SaveWorkbook" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

3.1.4.24.2.2 SaveWorkbookResponse

The **SaveWorkbookResponse** element specifies the result data for the **SaveWorkbook** WSDL operation.

```
<xs:element name="SaveWorkbookResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.24.3 Complex Types

None.

3.1.4.24.4 Simple Types

None.

3.1.4.24.5 Attributes

None.

3.1.4.24.6 Groups

None.

3.1.4.24.7 Attribute Groups

None.

3.1.4.25 SaveWorkbookCopy

This operation is used to save a workbook associated with an open session (2) to a specified location, and in a specified format.

The following is the WSDL port type specification of the **SaveWorkbookCopy** WSDL operation.

```
<wsdl:operation name="SaveWorkbookCopy" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SaveWorkbookCopySoapIn"/>
  <wsdl:output message="tns:SaveWorkbookCopySoapOut"/>
</wsdl:operation>
```

The protocol client sends a **SaveWorkbookSoapIn** request message and the protocol server responds with a **SaveWorkbookSoapOut** response message, as follows:

- If the protocol server cannot save the workbook in the form specified by **workbookType**, the protocol server returns a SOAP fault with subcode **SaveFailed**.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
EcsSnapshotAccessDenied
FileSaveGeneric
SaveFailed
SavingWorkbookAccessDenied

Subcode
SavingWorkbookFileNameExists
SavingWorkbookInvalidFileName
SavingWorkbookInvalidLocation

3.1.4.25.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SaveWorkbookCopySoapIn	The request WSDL message for the SaveWorkbookCopy WSDL operation.
SaveWorkbookCopySoapOut	The response WSDL message for the SaveWorkbookCopy WSDL operation.

3.1.4.25.1.1 SaveWorkbookCopySoapIn

The request WSDL message for the **SaveWorkbookCopy** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SaveWorkbookCopy
```

The SOAP body contains the **SaveWorkbookCopy** element.

3.1.4.25.1.2 SaveWorkbookCopySoapOut

The response WSDL message for the **SaveWorkbookCopy** WSDL operation.

The SOAP body contains the **SaveWorkbookCopyResponse** element.

3.1.4.25.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SaveWorkbookCopy	The input data for the SaveWorkbookCopy WSDL operation.
SaveWorkbookCopyResponse	The result data for the SaveWorkbookCopy WSDL operation.

3.1.4.25.2.1 SaveWorkbookCopy

The **SaveWorkbookCopy** element specifies the input data for the **SaveWorkbookCopy** WSDL operation.

```
<xs:element name="SaveWorkbookCopy" xmlns:xs="http://www.w3.org/2001/XMLSchema">
```

```

<xs:complexType>
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="workbookType" type="tns:WorkbookType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="saveOptions" type="tns:SaveOptions"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

workbookPath: The location of the workbook file to which to write.

- MUST be present.

If the specified value is not a Uniform Resource Identifier (URI) as specified in [\[RFC2396\]](#), or a Universal Naming Convention (UNC), the protocol server MUST return a SOAP fault response with subcode **SavingWorkbookInvalidFileName**.

- The protocol server ignores the number sign ("#") and fragment, as specified in [\[RFC3986\]](#).

workbookType: A **WorkbookType** as specified in section [2.2.5.4](#).

saveOptions: A combination of 0 or more values of **SaveOptions** (section [3.1.4.25.4.1](#)). MUST be present.

3.1.4.25.2.2 SaveWorkbookCopyResponse

The **SaveWorkbookCopyResponse** element specifies the result data for the **SaveWorkbookCopy** WSDL operation.

```

<xs:element name="SaveWorkbookCopyResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.25.3 Complex Types

None.

3.1.4.25.4 Simple Types

The following table summarizes the XML schema simple type definitions that are specific to this operation.

Simple type	Description
SaveOptions	An enumeration of flags that can be specified for the SaveWorkbookCopy operation.

3.1.4.25.4.1 SaveOptions

Namespace: http://schemas.microsoft.com/office/excel/server/webservices

An enumeration of flags that can be specified for the **SaveWorkbookCopy** operation and is defined as follows.

```
<xs:simpleType name="SaveOptions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="AllowOverwrite"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for the **SaveOptions** simple type.

Value	Meaning
None	MUST NOT be used.
AllowOverwrite	If this flag is not set, then if the workbookPath specified in the SaveWorkbookCopy operation corresponds to an existing file, the protocol server MUST NOT overwrite the existing file.

3.1.4.25.5 Attributes

None.

3.1.4.25.6 Groups

None.

3.1.4.25.7 Attribute Groups

None.

3.1.4.26 SetCalculationOptions

This operation is used to set the workbook calculation mode.

The following is the WSDL port type specification of the **SetCalculationOptions** WSDL operation.

```
<wsdl:operation name="SetCalculationOptions" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetCalculationOptionsSoapIn"/>
  <wsdl:output message="tns:SetCalculationOptionsSoapOut"/>
</wsdl:operation>
```

</wsdl:operation>

The protocol client sends a **SetCalculationOptionsSoapIn** request message and the protocol server responds with a **SetCalculationOptionsSoapOut** response message as follows:

- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD be one of the subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

3.1.4.26.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SetCalculationOptionsSoapIn	The request WSDL message for the SetCalculationOptions WSDL operation.
SetCalculationOptionsSoapOut	The response WSDL message for the SetCalculationOptions WSDL operation.

3.1.4.26.1.1 SetCalculationOptionsSoapIn

The request WSDL message for the **SetCalculationOptions** WSDL operation.

The SOAP action value is:

`http://schemas.microsoft.com/office/excel/server/webservices/SetCalculationOptions`

The SOAP body contains the **SetCalculationOptions** element.

3.1.4.26.1.2 SetCalculationOptionsSoapOut

The response WSDL message for the **SetCalculationOptions** WSDL operation.

The SOAP body contains the **SetCalculationOptionsResponse** element.

3.1.4.26.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SetCalculationOptions	The input data for the SetCalculationOptions WSDL operation.
SetCalculationOptionsResponse	The result data for the SetCalculationOptions WSDL operation.

3.1.4.26.2.1 SetCalculationOptions

The **SetCalculationOptions** element specifies the input data for the **SetCalculationOptions** WSDL operation.

```

<xs:element name="SetCalculationOptions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="calcType"
type="tns:WorkbookCalculation"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operation, but MAY instead be obtained in any other way.

calcType: The calculation mode value as specified in **WorkbookCalculation**.

3.1.4.26.2.2 SetCalculationOptionsResponse

The **SetCalculationOptionsResponse** element specifies the result data for the **SetCalculationOptions** WSDL operation.

```

<xs:element name="SetCalculationOptionsResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.26.3 Complex Types

None.

3.1.4.26.4 Simple Types

The following table summarizes the XML schema simple type definitions that are specific to this operation.

Simple type	Description
WorkbookCalculation	The WorkbookCalculation type is an enumeration of a set of options that specify how the protocol server calculates the workbook.

3.1.4.26.4.1 WorkbookCalculation

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

The **WorkbookCalculation** type is an enumeration of a set of options that specify how the protocol server calculates the workbook. This type is defined as follows.

```

<xs:simpleType name="WorkbookCalculation" xmlns:xs="http://www.w3.org/2001/XMLSchema">

```

```

<xs:restriction base="xs:string">
  <xs:enumeration value="Manual"/>
  <xs:enumeration value="Automatic"/>
  <xs:enumeration value="Semiautomatic"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for the **WorkbookCalculation** simple type.

Value	Meaning
Manual	Specifies workbook is in manual calculation mode .
Automatic	Specifies workbook is in automatic calculation mode .
Semiautomatic	Specifies workbook is in automatic calculation mode, except for data tables (1).

3.1.4.26.5 Attributes

None.

3.1.4.26.6 Groups

None.

3.1.4.26.7 Attribute Groups

None.

3.1.4.27 SetCell

This operation is used to set a value to a specific worksheet cell in the workbook.

The following is the WSDL port type specification of the **SetCell** WSDL operation.

```

<wsdl:operation name="SetCell" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetCellSoapIn"/>
  <wsdl:output message="tns:SetCellSoapOut"/>
</wsdl:operation>

```

1. The row (2) and column (2) fields on the sheets (2) specified by **sheetName** specify the location of the worksheet cell to set.
2. **cellValue** MUST either be empty and have the **xsi:nil** attribute set to **true** or be one of the following types: **boolean**, **dateTime**, **decimal**, **double**, **float**, **int**, **short**, **string**, or **unsigned byte**.
 1. If the value is of type **string**, it MUST NOT be longer than 32,767 characters.
 2. If the protocol server does not support the value it MUST return a SOAP fault.
 3. If the protocol server does not support setting a value in the specified location, it MUST return a SOAP fault.

3. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section 2.2.9.2, but MAY instead contain any subcode specified in section 2.2.9.1 or any other subcode.

Subcode
FormulaParseFailed
InvalidSheetName
CannotEditPivotTable

3.1.4.27.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SetCellSoapIn	The request WSDL message for the SetCell WSDL operation.
SetCellSoapOut	The response WSDL message for the SetCell WSDL operation.

3.1.4.27.1.1 SetCellSoapIn

The request WSDL message for the **SetCell** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SetCell
```

The SOAP body contains the **SetCell** element.

3.1.4.27.1.2 SetCellSoapOut

The response WSDL message for the **SetCell** WSDL operation.

The SOAP body contains the **SetCellResponse** element.

3.1.4.27.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SetCell	The input data for the SetCell WSDL operation.
SetCellResponse	The result data for the SetCell WSDL operation.

3.1.4.27.2.1 SetCell

The **SetCell** element specifies the input data for the **SetCell** WSDL operation.

```

<xs:element name="SetCell" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="row" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="column" type="xs:int"/>
      <xs:element minOccurs="0" maxOccurs="1" name="cellValue"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) that contains the worksheet cell to set. See section [2.2.5.3](#). MUST be present. MUST NOT be empty.

row: The row (2) index of the worksheet cell. MUST be greater than or equal to 0 and less than or equal to 1,048,575.

column: The column (2) index of the worksheet cell. MUST be greater than or equal to 0 and less than or equal to 16,383.

cellValue: The value to set in the worksheet cell.

3.1.4.27.2 SetCellResponse

The **SetCellResponse** element specifies the result data for the **SetCell** WSDL operation.

```

<xs:element name="SetCellResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.27.3 Complex Types

None.

3.1.4.27.4 Simple Types

None.

3.1.4.27.5 Attributes

None.

3.1.4.27.6 Groups

None.

3.1.4.27.7 Attribute Groups

None.

3.1.4.28 SetCellA1

This operation is used to set a value to a specific worksheet cell in the workbook.

The following is the WSDL port type specification of the **SetCellA1** WSDL operation.

```
<wsdl:operation name="SetCellA1" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetCellA1SoapIn"/>
  <wsdl:output message="tns:SetCellA1SoapOut"/>
</wsdl:operation>
```

The protocol client sends a **SetCellA1SoapIn** request message, and the protocol server responds with a **SetCellA1SoapOut** response message, as follows:

1. The sheet (2) that contains the worksheet cell that will be set is determined in the following manner:
 - If **rangeName** specifies a sheet (2), that sheet (2) MUST be used.
 - Otherwise, the sheet (2) specified in **sheetName** MUST be used, as specified in section [2.2.5.3](#).
 - If neither **sheetName** nor **rangeName** specify a sheet (2), the protocol server MAY [<24>](#) use any sheet (2) in the workbook.
2. If **sheetName** is empty and **rangeName** specifies a sheet (2), as defined in section [2.2.5.2](#), the protocol server MUST use the sheet (2) that is specified by **rangeName** to locate the range.
3. **cellValue** MUST either be empty and have the xsi:nil attribute set to true or be one of the following types: **boolean**, **dateTime**, **decimal**, **double**, **float**, **int**, **short**, **string**, or **unsigned byte**.
 1. If the value is of type **string**, it MUST NOT be longer than 32767 characters.
 2. If the protocol server does not support the value, it MUST return a SOAP fault.
 3. If the protocol server does not support setting a value in the specified location, it MUST return a SOAP fault.
4. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
FormulaParseFailed
InvalidSheetName

Subcode
DimensionAndArrayMismatch
SheetRangeMismatch
RangeParseError

3.1.4.28.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SetCellA1SoapIn	The request WSDL message for the SetCellA1 WSDL operation.
SetCellA1SoapOut	The response WSDL message for the SetCellA1 WSDL operation.

3.1.4.28.1.1 SetCellA1SoapIn

The request WSDL message for the **SetCellA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SetCellA1
```

The SOAP body contains the **SetCellA1** element.

3.1.4.28.1.2 SetCellA1SoapOut

The response WSDL message for the **SetCellA1** WSDL operation.

The SOAP body contains the **SetCellA1Response** element.

3.1.4.28.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SetCellA1	The input data for the SetCellA1 WSDL operation.
SetCellA1Response	The result data for the SetCellA1 WSDL operation.

3.1.4.28.2.1 SetCellA1

The **SetCellA1** element specifies the input data for the **SetCellA1** WSDL operation.

```
<xs:element name="SetCellA1" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

    <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="cellValue"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) that contains the worksheet cell to set. See section [2.2.5.3](#). MUST be present. MUST NOT be empty.

rangeName: The range of the worksheet cell to set. See section [2.2.5.2](#). MUST be present.

cellValue: The value to set in the worksheet cell.

3.1.4.28.2.2 SetCellA1Response

The **SetCellA1Response** element specifies the result data for the **SetCellA1** WSDL operation.

```

<xs:element name="SetCellA1Response" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.28.3 Complex Types

None.

3.1.4.28.4 Simple Types

None.

3.1.4.28.5 Attributes

None.

3.1.4.28.6 Groups

None.

3.1.4.28.7 Attribute Groups

None.

3.1.4.29 SetParameters

This operation sets values of workbook parameters in a workbook.

The following is the WSDL port type specification of the **SetParameters** WSDL operation.

```
<wsdl:operation name="SetParameters" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetParametersSoapIn"/>
  <wsdl:output message="tns:SetParametersSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **SetParametersSoapIn** request message, and the protocol server responds with a **SetParametersSoapOut** response message, as follows:

- For each [ParameterInfo](#) (section [3.1.4.29.3.2](#)) in **parameters**, if the workbook parameter is a PivotTable page field:
 - If the number of elements in the **Values** array of ParameterInfo is equal to or greater than 1, the protocol server uses the values as the PivotTable **manual filter**.
 - If the number of element in the **Values** array of ParameterInfo is 0, the protocol server changes the PivotTable manual filter to the **default filter value**.
- For each ParameterInfo in **parameters**, if the workbook parameter is a **slicer** page filter:
 - If the number of elements in the **Values** array of ParameterInfo is equal to or greater than 1, the protocol server uses the values as the slicer manual filter.
 - If the number of elements in the **Values** array of ParameterInfo is 0, the protocol server changes the slicer manual filter to the default filter value.
- For each ParameterInfo in **parameters**, if the workbook parameter is neither a slicer page filter nor a PivotTable page filter:
 - If the number of elements in the **Values** array of ParameterInfo is not exactly 1, the protocol server ignores all elements in the array.
 - If the number of elements in the **Values** array of ParameterInfo is exactly 1, the protocol server applies that value to the parameter.
- If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
FormulaEditingNotEnabled
InvalidSheetName
ParameterDoesNotExist
SetParameterFailure

3.1.4.29.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SetParametersSoapIn	The request WSDL message for the SetParameters WSDL operation.
SetParametersSoapOut	The response WSDL message for the SetParameters WSDL operation.

3.1.4.29.1.1 SetParametersSoapIn

The request WSDL message for the **SetParameters** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SetParameters
```

The SOAP body contains the **SetParameters** element.

3.1.4.29.1.2 SetParametersSoapOut

The response WSDL message for the **SetParameters** WSDL operation.

The SOAP body contains the **SetParametersResponse** element.

3.1.4.29.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SetParameters	The input data for the SetParameters WSDL operation.
SetParametersResponse	The result data for the SetParameters WSDL operation.

3.1.4.29.2.1 SetParameters

The **SetParameters** element specifies the input data for the **SetParameters** WSDL operation.

```
<xs:element name="SetParameters" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:ArrayOfParameterInfo"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

parameters: An array of **ParameterInfo** elements (section [3.1.4.29.3.2](#)) to be set in the workbook, as specified in section [3.1.4.29.3.1](#). MUST be present.

3.1.4.29.2.2 SetParametersResponse

The **SetParametersResponse** element specifies the result data for the **SetParameters** WSDL operation.

```
<xs:element name="SetParametersResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

status: An array of **Status** elements as specified in section [2.2.4.2](#).

3.1.4.29.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
ArrayOfParameterInfo	An array of ParameterInfo elements.
ParameterInfo	Represents a value or a list of values to be set into a workbook parameter in the workbook.

3.1.4.29.3.1 ArrayOfParameterInfo

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

An array of **ParameterInfo** elements defined as follows. The number of element in the **ArrayOfParameterInfo** element MUST be less than or equal to 255.

```
<xs:complexType name="ArrayOfParameterInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ParameterInfo" nillable="true"
      type="tns:ParameterInfo"/>
  </xs:sequence>
</xs:complexType>
```

ParameterInfo: A workbook parameter as specified in section [3.1.4.29.3.2](#).

3.1.4.29.3.2 ParameterInfo

Namespace: <http://schemas.microsoft.com/office/excel/server/webservices>

Represents a value or a list of values to be set into a workbook parameter in the workbook and is defined as follows.

```
<xs:complexType name="ParameterInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfString"/>
  </xs:sequence>
</xs:complexType>
```

Name: The name of the workbook parameter. MUST NOT exceed 255 characters.

Values: An array of string values to set in the workbook parameter as specified in section [2.2.4.3](#).

3.1.4.29.4 Simple Types

None.

3.1.4.29.5 Attributes

None.

3.1.4.29.6 Groups

None.

3.1.4.29.7 Attribute Groups

None.

3.1.4.30 SetRange

This operation is used to set values to a range of worksheet cells on a workbook.

The following is the WSDL port type specification of the **SetRange** WSDL operation.

```
<wsdl:operation name="SetRange" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetRangeSoapIn"/>
  <wsdl:output message="tns:SetRangeSoapOut"/>
</wsdl:operation>
```

1. The **rangeCoordinates** on the sheet (2) specified by **sheetName**; specify the location of the worksheet cells to set.
2. If the user does not have the Open Item permission on the workbook, **rangeValues** SHOULD [<25>](#) contain only one item.
3. Each element inside the **rangeValues** element MUST be of type **ArrayOfAnyType** and be a row (2) of worksheet cells. The number of rows (2) in **rangeValues** MUST be equal to the number of rows (2) specified in the **rangeCoordinates** element.
4. Each element inside each of the **ArrayOfAnyType** type nested inside **rangeValues** MUST be a single worksheet cell. The number of elements inside each such nested **ArrayOfAnyType** MUST be equal to the number of columns (2) specified in the **rangeCoordinates** element.

5. All worksheet cells in the **rangeValues** element MUST either be empty and have the xsi:nil attribute set to true or one be of the following types: **boolean**, **dateTime**, **decimal**, **double**, **float**, **int**, **short**, **string**, or **unsigned byte**.
 1. If the value is of type **string**, it MUST NOT be longer than 32,767 characters.
 2. If the protocol server does not support the value, it MUST return a SOAP fault.
 3. If the protocol server does not support setting a value in the specified location, it MUST return a SOAP fault.
6. If there was an application error on the protocol server during the operation, the protocol server MUST return a SOAP fault response, which SHOULD contain one of the following subcodes or any other subcodes specified in section [2.2.9.2](#), but MAY instead contain any subcode specified in section [2.2.9.1](#) or any other subcode.

Subcode
FormulaParseFailed
InvalidSheetName
DimensionAndArrayMismatch
SheetRangeMismatch
RangeParseError

3.1.4.30.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SetRangeSoapIn	The request WSDL message for the SetRange WSDL operation.
SetRangeSoapOut	The response WSDL message for the SetRange WSDL operation.

3.1.4.30.1.1 SetRangeSoapIn

The request WSDL message for the **SetRange** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SetRange
```

The SOAP body contains the **SetRange** element.

3.1.4.30.1.2 SetRangeSoapOut

The response WSDL message for the **SetRange** WSDL operation.

The SOAP body contains the **SetRangeResponse** element.

3.1.4.30.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SetRange	The input data for the SetRange WSDL operation.
SetRangeResponse	The result data for the SetRange WSDL operation.

3.1.4.30.2.1 SetRange

The **SetRange** element specifies the input data for the **SetRange** WSDL operation.

```
<xs:element name="SetRange" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeCoordinates"
type="tns:RangeCoordinates"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeValues" type="tns:ArrayOfAnyType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

sheetName: The name of the worksheet that contains the range to set. See section [2.2.5.3](#). MUST be present. MUST NOT be empty.

rangeCoordinates: The range to set. See section [2.2.5.2](#). MUST be present. MUST NOT be empty.

rangeValues: The values to set in the range specified by **rangeCoordinates**. MUST be present.

3.1.4.30.2.2 SetRangeResponse

The **SetRangeResponse** element specifies the result data for the **SetRange** WSDL operation.

```
<xs:element name="SetRangeResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.30.3 Complex Types

None.

3.1.4.30.4 Simple Types

None.

3.1.4.30.5 Attributes

None.

3.1.4.30.6 Groups

None.

3.1.4.30.7 Attribute Groups

None.

3.1.4.31 SetRangeA1

This operation is used to set values to a range of worksheet cells on a workbook.

The following is the WSDL port type specification of the **SetRangeA1** WSDL operation.

```
<wsdl:operation name="SetRangeA1" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:SetRangeA1SoapIn"/>
  <wsdl:output message="tns:SetRangeA1SoapOut"/>
</wsdl:operation>
```

1. The sheet (2) that contains the range that will be set is determined in the following manner:
 - If **rangeName** specifies a sheet (2), that sheet (2) MUST be used.
 - Otherwise, the sheet (2) specified in **sheetName** MUST be used, as specified in section [2.2.5.3](#).
 - If neither **sheetName** nor **rangeName** specify a sheet (2), the protocol server MAY [26](#) use any sheet (2) in the workbook.
2. If **sheetName** is empty and **rangeName** specifies a sheet (2), as defined in section [2.2.5.2](#), the sheet (2) that is specified by **rangeName** MUST be used to locate the range.
3. Each element inside the **rangeValues** element MUST be of type **ArrayOfAnyType** and be a row (2) of worksheet cells. The number of rows (2) in **rangeValues** MUST be equal to the number of rows (2) specified in the **rangeName** element.
4. Each element inside each of the **ArrayOfAnyType** type nested inside **rangeValues** MUST be a single worksheet cell. The number of elements inside each such nested **ArrayOfAnyType** MUST be equal to the number of columns (2) specified in the **rangeName** element.
5. All worksheet cells in the **rangeValues** element MUST either be empty and have the xsi:nil attribute set to true or be one of the following types: **boolean**, **dateTime**, **decimal**, **double**, **float**, **int**, **short**, **string**, or **unsigned byte**.

- If the value is of type **string**, it MUST NOT be longer than 32767 characters.
 - If the protocol server does not support the value, it MUST return a SOAP fault.
 - If the protocol server does not support setting a value in the specified location, it MUST return a SOAP fault.
6. If the user does not have the Open Item permission on the workbook, **rangeValues** SHOULD [<27>](#) contain only one worksheet cell.

3.1.4.31.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
SetRangeA1SoapIn	The request WSDL message for the SetRangeA1 WSDL operation.
SetRangeA1SoapOut	The response WSDL message for the SetRangeA1 WSDL operation.

3.1.4.31.1.1 SetRangeA1SoapIn

The request WSDL message for the **SetRangeA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/excel/server/webservices/SetRangeA1
```

The SOAP body contains the **SetRangeA1** element.

3.1.4.31.1.2 SetRangeA1SoapOut

The response WSDL message for the **SetRangeA1** WSDL operation.

The SOAP body contains the **SetRangeA1Response** element.

3.1.4.31.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
SetRangeA1	The input data for the SetRangeA1 WSDL operation.
SetRangeA1Response	The result data for the SetRangeA1 WSDL operation.

3.1.4.31.2.1 SetRangeA1

The **SetRangeA1** element specifies the input data for the **SetRangeA1** WSDL operation.

```
<xs:element name="SetRangeA1" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
```

```

<xs:sequence>
  <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
  <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
  <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
  <xs:element minOccurs="0" maxOccurs="1" name="rangeValues" type="tns:ArrayOfAnyType"/>
</xs:sequence>
</xs:complexType>
</xs:element>

```

sessionId: A session identifier (2). MUST be present in the request message. SHOULD have a value that has been obtained from a previous call to the **OpenWorkbook**, **OpenWorkbookEx**, **OpenWorkbookForEditing**, or **NewWorkbook** operations, but MAY instead be obtained in any other way.

sheetName: The name of the sheet (2) that contains the range to set. See section [2.2.5.3](#). MUST be present.

rangeName: The name of the range to set. See section [2.2.5.2](#). MUST be present.

rangeValues: The values to set in the range specified by **rangeName**. MUST be present.

3.1.4.31.2 SetRangeA1Response

The **SetRangeA1Response** element specifies the result data for the **SetRangeA1** WSDL operation.

```

<xs:element name="SetRangeA1Response" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

status: An array of status information as specified in section [2.2.4.2](#).

3.1.4.31.3 Complex Types

None.

3.1.4.31.4 Simple Types

None.

3.1.4.31.5 Attributes

None.

3.1.4.31.6 Groups

None.

3.1.4.31.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

The following subsections contain examples of this protocol's usage.

For an example of a system that implements this protocol, see [\[MSDN-WDCAEWS\]](#).

4.1 Getting the Value of a Worksheet Cell

This example shows a simple, and typical, flow of how this protocol is used to enable a protocol client to get calculated results from a workbook. This example assumes a workbook has already been created and is stored in a location that the protocol server can load workbook files from.

In this example, a workbook is loaded on the protocol server, recalculated, a value is fetched, and the workbook is closed. The following UML diagram illustrates this example.

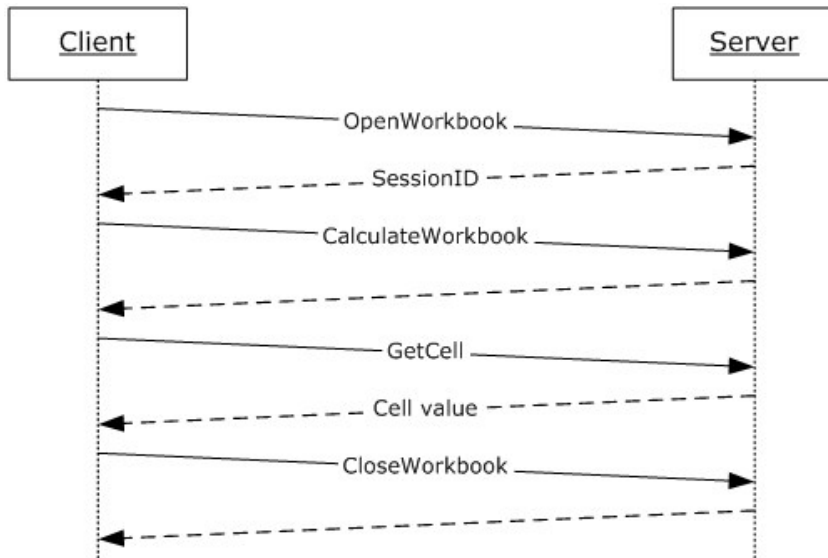


Figure 3: Getting the value of a worksheet cell example

The order of operations, including the relevant **SOAP** requests and responses for each step, is as follows:

- Load the workbook.

Request

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <OpenWorkbook xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <workbookPath>http://server/site/documents/book2.xlsx</workbookPath>
      <uiCultureName />
      <dataCultureName />
    </OpenWorkbook>
  </soap:Body>
```

```
</soap:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <OpenWorkbookResponse
xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <OpenWorkbookResult>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.5791QXImNo/JutQkV4kbZDd90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.4d387825-9c48-4d48-98fe-
7894661941631.N</OpenWorkbookResult>
    </OpenWorkbookResponse>
  </soap:Body>
</soap:Envelope>
```

- Recalculate the workbook.

Request

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CalculateWorkbook xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <sessionId>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.5791QXImNo/JutQkV4kbZDd90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.4d387825-9c48-4d48-98fe-
7894661941631.N</sessionId>
      <calculateType>CalculateFull</calculateType>
    </CalculateWorkbook>
  </soap:Body>
</soap:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CalculateWorkbookResponse
xmlns="http://schemas.microsoft.com/office/excel/server/webservices" />
  </soap:Body>
</soap:Envelope>
```

- Fetch the specific value from a worksheet cell within the workbook.

Request

```
<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
```

```

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetCellA1 xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <sessionId>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.5791QXImNo/JutQkV4kbZDd90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.4d387825-9c48-4d48-98fe-
7894661941631.N</sessionId>
      <sheetName>Sheet1</sheetName>
      <rangeName>A1</rangeName>
      <formatted>>false</formatted>
    </GetCellA1>
  </soap:Body>
</soap:Envelope>

```

Response

```

<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetCellA1Response xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <GetCellA1Result xsi:type="xsd:double">5</GetCellA1Result>
    </GetCellA1Response>
  </soap:Body>
</soap:Envelope>

```

- Close the workbook session on the protocol server.

Request

```

<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CloseWorkbook xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <sessionId>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.5791QXImNo/JutQkV4kbZDd90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.4d387825-9c48-4d48-98fe-
7894661941631.N</sessionId>
    </CloseWorkbook>
  </soap:Body>
</soap:Envelope>

```

Response

```

<?xml version="1.0" encoding="utf-8"?><soap:Envelope
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CloseWorkbookResponse
xmlns="http://schemas.microsoft.com/office/excel/server/webservices" />
  </soap:Body>
</soap:Envelope>

```


4.2 Refreshing Data and Retrieving a Workbook

This example illustrates how this protocol is used to enable a more complex series of actions, including refreshing connected data and retrieving the resulting workbook after a calculation. This example assumes a workbook has already been created and is stored in a location that the workbook protocol server can load files from. In this example a workbook is loaded on the protocol server, some values are set into the workbook, the connected data is refreshed, the workbook is recalculated, and finally the desired result of that calculation is retrieved and the workbook is closed. The following UML diagram illustrates this example.

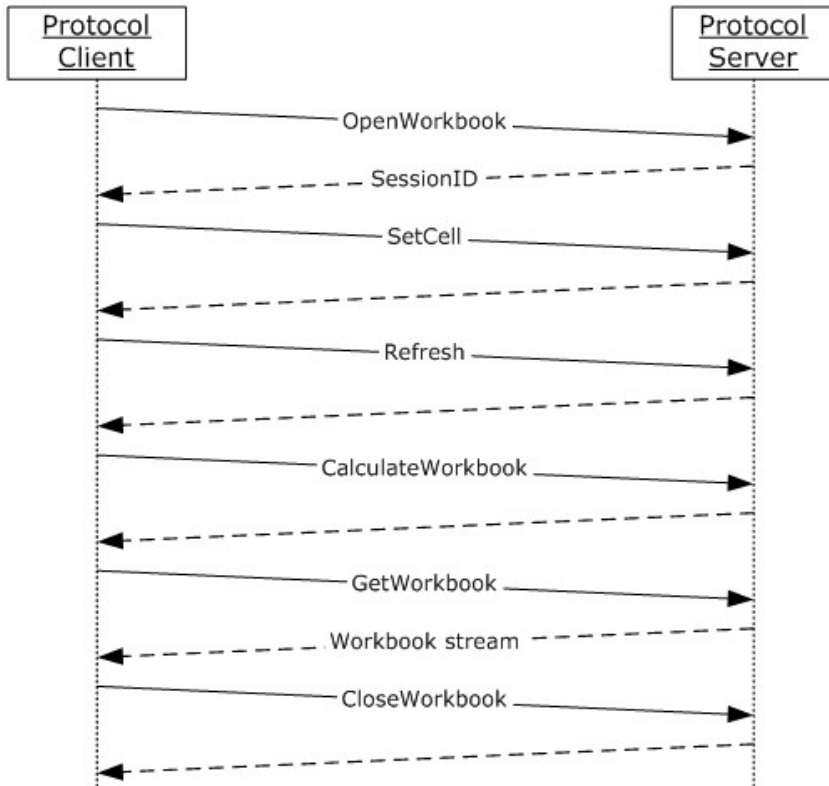


Figure 4: Refresh data and retrieve workbook example

The order of operations, including the relevant SOAP requests and responses for each step, is as follows:

- Load the workbook.

Request

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <OpenWorkbook xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <workbookPath>http://server/site/documents/book2.xlsx</workbookPath>
      <uiCultureName />
      <dataCultureName />
    </OpenWorkbook>
  </soap:Body>
</soap:Envelope>
```

```
</OpenWorkbook>
</soap:Body>
</soap:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <OpenWorkbookResponse
xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <OpenWorkbookResult>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.494r81aHjSSiziqJhYlU2B590.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#+006036.4d387825-9c48-4d48-98fe-
7894661941631.N</OpenWorkbookResult>
    </OpenWorkbookResponse>
  </soap:Body>
</soap:Envelope>
```

- Set the value of the worksheet cell.

Request

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <SetCellA1 xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <sessionId>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.494r81aHjSSiziqJhYlU2B590.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#+006036.4d387825-9c48-4d48-98fe-
7894661941631.N</sessionId>
      <sheetName>Sheet1</sheetName>
      <rangeName>A1</rangeName>
      <cellValue xsi:type="xsd:int">5</cellValue>
    </SetCellA1>
  </soap:Body>
</soap:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <SetCellA1Response xmlns="http://schemas.microsoft.com/office/excel/server/webservices"
/>
  </soap:Body>
</soap:Envelope>
```

- Refresh the connected data in the workbook.

Request

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <Refresh xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <sessionId>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.494r81aHjSSiziqJhYlU2B590.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.4d387825-9c48-4d48-98fe-
7894661941631.N</sessionId>
      <connectionName>Adventure Works</connectionName>
    </Refresh>
  </soap:Body>
</soap:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <RefreshResponse xmlns="http://schemas.microsoft.com/office/excel/server/webservices" />
  </soap:Body>
</soap:Envelope>
```

- Recalculate the workbook.

Request

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CalculateWorkbook xmlns="http://schemas.microsoft.com/office/excel/server/webservices">
      <sessionId>36.c22a23f3-976c-4933-aa85-
74c6f06c51b5164.1.V23.494r81aHjSSiziqJhYlU2B590.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.4d387825-9c48-4d48-98fe-
7894661941631.N</sessionId>
      <calculateType>CalculateFull</calculateType>
    </CalculateWorkbook>
  </soap:Body>
</soap:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <CalculateWorkbookResponse
xmlns="http://schemas.microsoft.com/office/excel/server/webservices" />
  </soap:Body>
```


aIRMk1FAvOgA2t04BCoOnSzE4mYsyCvUPLIEIeWwyoWrguxqz9vtqM4UmdW1p+dAbV6X8Ki+vojBiOkNgktr3wsbhqvJzMY7+Ih3/NNn9pzTr9s85tCDQzFYZ82Waz+OZ/9ue0LaRqTDCaGkJKTrkZ302E76RiSdIFPUURPd8/rH7agC9D4Abgc60WwI Qb2x1hadbHj34xOLrcGroyjZQyBA0f2DhIhKVccBhjNnsI4Fbcxw4d6ESMC0uXyFjLMmFpWRXanfeMB+1KcmtbhenHEDz /jFKzcXUHRjAoNFkUmsURVxoA3KTgyXGWI3fxIaJzSRLGNFDD8QBqB9gr0RlMbiSPNStLs5bo/RMDHS/byKB7VOTG0 /F44DzyQMLG7JqErs1VRrdYlEgVkmOMNtPmCQcJzKPkko/zHr9GLFJjznpv6VAMFqUk4LuvVsEE2KDsIanRLC6NGKUm oURVxqA3KxqI28niXbIbH3AghCTaiIQ61IdEpQB0HE6EUF/kSDnD15ACXID1QhFnWwA5Wu5fmo6bymSAflvU5XrBLQMP 8fOatFLWcnhvaOLOmWFM9o9dXsP9MzGkFRWHvUiwamRMRTOr4nEzNXZeFozjoPykuMJfOGIBkKzJOQKypspoaAcvtIqt3 1EFdQQM20wim7zZQqbQFFh10UMvIrdtWfzjRCZiHb5V/ubD959YhhxstCcxvDDB63RhulMnrJb/my117V7hpr9E+NdeTB4 4Q6ELcWZe5BOnBZS4JTSAGOWilIbT1Of1TcaLr6+P4QF/wGrY3bq30QFioiPvhorTEY00UmQCfxfBfy54BG1vdNoMzEh lLjciHwZwWJEJsGHDC+c6+wVnpCTSdhoFkhsrtrPF9aLiOTY4adnaJA13Bwx5RcmbjfgFNqscZsaJ+zjbo8W3pr4vWF Ok+g9GRoWSM0B5wm3954mgojAR0UnwxRNz1brBf7EJKIThaO3bJrPEIKmVk0A4JnPNEQk33L6ImfCE/UIwv7Yur6IKDe GFiOkJYSyHAXpnd4FMsS3i06E5EpnasXGAevfAQ1jdiUBFLZMMAXQq6ECJiN/Dag3R35fL249iGQ2jKZHigFgxAt1UnQ z6oIjgqSR6PdLwarrvTzMXqMHWn18OgpiOrCkvX5sFF7cXNuz3bMdszdGipI8D2HZe6XRmQXX6bcwykoFMN5sdWE8 KEUpCqf3KxqI28niXbIbH3AghCTaiIQ61IdEpQB0HE6EUF/kSDnD15ACXID1QhFnWwA5Wu5fmo6bymSAflvU5XrBLQMP 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFTVB2Q3FeAlfObgRORQaensf2317niMRQzazSDAddRwXqta1GB vWlMUKXPEtGFxbg15qAutSMi2yXagkjVummdhFdfMK0Z7F6Gac1cadUrFwjRMiPtLz35/gpSFVXET2DQYV0IHSscYQG9s yOWBmiL2oJ/rYryo6PFMR1MFg/jRUxVumntK8bC4vBvUqNG3Qy5dELQb7X3G+Bypfp4Iw7RvgowBTDQr1igUwQom03quRs 7Z41UKyr80fXGLWIS7pkjwJIf/+DVq3GAzKp70GWWI0DaYUUIS3M6opbBOWPwT4Xqc6tvk6xJJGUtAnLqGxJbJGy86oK LM3+UfwrV6x5Vpd7TtQzRFBbw2Qh7A3BcYD39Sciv6gmiOC3x9v03cSTOPBNBrvkSVWtRwDnHThzOnDhG0ESLk+C5ihaO GXToIVSp52D/3SiMxkoc2JJ+YaAU6sLhpNr/ChwdzAWSTxNDiU4rJQP8iVbJTsuwXXsxmquvZpZsCBVO5duyBD1XMHg 7+xK0ApVV+8gWNBiu4VGguXgem0mXmLmf7iG4Hb0zGSM01h4t8tlewzMBQ+j1Fr3KMG9Mep50KXhDk0WY3Y8y8qgR ikh75CiTMQXe/gCHsmPbuPonqbsXq81yFveIA5Z9u7MPlegG3ZLMSnH7sUe9RFsxcAArGmObLcyjpl1VYbv6mvsmr8r9tu 052ea3+wQd6XxEFakJKQo5oADBewKEt1fMABkOisajtFT

GhJl8QgjaqngKGoXi2ZYBlMm7Z8N0GBAPq2mX5bFHALMl8PThbDKPA7Sp1YLJFw27yhrUcQRQu+NjV4gR4iPSlALjOPFRG
oFHgskDmXYE459TE5Y9PZLoigLQLxntfaOAJ4YIfuwvx57QYVVRyHkFDwjcegdPImbqA4xQhGsJBUdGSjKh8W0qCCTi+
xmaN60jYQ9dLwNTRaS2fPbmlottCFTY8FnR1TiZzu4hWzNabqBOCLASoiP6TW0FXQLQio1U81OMELLYJFL+sqBhPOZni
15XV0BAqVI6HrPw2XFAv1+262W25WBSVWMAeWp17V0jDjeG1mMEEJWqweDqtNKEf2IYu7FKt3BuYuYJ6QBSPaHoDUJF
QCDVjeh/nW3aIVDHJQe+zm5mi r43dEPRJHZ0sUnBkMl8YCG5XE9KR2yXkcoWh6JGKGB8a9iWx4u4AyqGUK4No5Pr+k0s
EIA TWvulQ8N4xmRvAEvUXO//QnJChVZNX3ctDFz77hiTXFzrBEjrnSmQv+7UCsYg4HeCTj1GWFTqjAa6GhXJYJzlvuIJJ
212i2GYfAM4+GsNKYC7ZQ/MqRRd+IEuecZAd9eWTS0HtEkVMfx3A0c5BBvYUFXLgV9g4CpUk34IiakSDXJRw7Seyp3Lqa
nUhs5WReQqggwCgo+OhQ+U1IPoIF91+3dP32ALPs7/bwmQzZrDs+ndGQj8VBMHJKK5rDTVsDDqdVYVYL6pb/Kq/G8uPsAx
hmv+UKxv6nxzK04U679NTAnBRDPCR7UeKzMJjKLz610KapvKSFPA9josZmdA86cKdHbVReO4GM2R8ayBo+8BN6cOXDfMy
FAx4twrxR+LcneP3Lwe+2rz53EtN4nYGoJCFKHTj9D1qCqsxc5M1gjm4msD0MA080kTPvScRxnIAK3VrjAo47vDtVC0xVG
QOP0WzrLJFEEC0gnsFzRFYVOaYjAMLR9/DXT11qN1zZMBVBBa05KsOXKD9cvDXGpvPvdSkHJ+4rnpKansBctcfst6j2sK
zlpWFctXYQ/ZRN3GRjs4FUArSylePz+L7qR11FASMvehOq+sF1xT3+wNcJpdZP83w9oZWxmUqyLytKpaXzOFHSjrQ1uY
qtKNMThii6mnwX5WfdtY6Cp9nU9GwuUUPhp8jdUcFlzKsyeYVfKUrAOi0ZhKfWN7bGelrnofpIppHEyVthRQnbJHGqps
WEB7e17YtkriolRiXan4Bge+Rpe6tnVbhjWbMyJ7A8VsAyzbcVvYPtV5guAHbG9uXg+oxqQ/QP72pyV8RUI676j1sJzrqXC
jLZJa+/NLALBvixZ7Q2tq8Exm63v4UKan5nvYzBbCc8TiQ7lweoV+xFlDiRkms/L9uoFvZKmxWp222myTWQzfXhNKKRf
DRrOck9ktG/mF+VUV7Q6InmZjgqBej9Bhx8OD1X5KxzKPUtIMUZqwbdm6Kq7KYgnXRE9nz599En9uf9nmN4WyXyflLc/d
fidITxPr82Qm9Xuq/boqiszEdtyMJyxBVfKohqVqOCTpB74Xmj29Ys43+gTXV4JnM1r6TYM3syZNIzLs1LkbMcGgrL9U30
O3WY5A0bzL9FHa3xaJ0s01mMdtnsUaznJPzJqT7Nxy79NHT0pJcowskKXF2NM1hM0zHNOz1G1wEY2I202iy
20qQc2T7qHHRlx+oFN6vszgpSeSB3YHNx1YYNw+oFNQkEKW4SSEwxqpfHQ3xYjpp0FFuNhgobNsqkJ1r3P65uistpp9m6
ZEmXGVVnBczFl+6HmzbpuyuoKZq+gPO2YvbwzngcAqdgHGfbyxye3e40pgH0slqTa2PirrVplKE6tGV61gkLXvBVXpj/
fyrJxz5ZhgtrtYbWt5PqVkvAVmavwVWL8laXj28ym5Xj/VKVDQBczsk5eW2yzTa5xTiW4IBj2YwZJ7MaWla5zpp1JrbZu
4Uss0bV99th7V7DU1luty9ynto26EZ/7tzcVYVLUAWA6G2xK/drAc21I9A8SRA0PLMkrZTWkxzeta1A1JxJd
cf32Q224GLxddmm9xiHLA8NmPGyaxmoxZrNss5vd00ZvktP7yHt10vW8GxChHfSoHxJDAxIR/aQrs1YQNTapR90t27E1p
JAZZLAG44nIGYfMaTcajFpuHOCU1ioj+2rCMf2MCXX+CjJdtCDLLeFz+LatdOs+ARVzTKvcEc2FQ2Bm17WYapjKThjJW
shzYUD10HjE90QoA7X6N6giBN+Pwb6W1t7+u82uZcVMEdt/hzVoMrJtrQtNlPJRfzBjNtqlRpmJxvI6RBLIeiVZVj
tFlyFG2av1FRPK3MTPf7bmy0h21C4zUUXnd2c01veg80D30UAd9J7VFNJKvt6sbsIB7ZTvKWRdbnMhvb5iBnsW8Ab2/A4+K
ZdMAC+89m331kn13EYpc+Foce5YUyx2ws80P1z8btamMhew8Ncy2129a/s7OHDMLyzbi7W60++tYyGwpDQdH+GPwoy/NH
xGf44yPDHkxn+a13dZk+KXB/MIotwNnUyQy/WdaGdum0IGfmbyp6+hAeu1/QU6SjO/ErstMjrw5RPMCjt/GRHR1Gt/FH
OOSIetd6vVqLgrCx1sDW312AGTVNaS3f8pXm7++wg5eqFgbITzcd92jge3PcK/2p2q+XhVZ+wY4tran0c5qJG87d3F+r
E22PrfshzV9dNcgHdgaOJHQ7IjPIXskkVpUztdv24OeQod672C9hxx+BV9tWUVtNRQdVdY0/Ox+hHuzgd1SsdccqAiFs/d
mOZXJoS1oLD2SV6WsmUa0XTmKZ7XCWbV63g9f7D4Sh5XuWorN7YLDytPX5oOLRqB3EC1WuVrDrISQsE1nn80Vt39TeqA3
x+CPloWjgmAgj3PtpOX0nKVdc5Tkd2yt5Pm3VPXomn7P1nR62Ca20vRhr5zSe6jDG81YfH0VXe+y99eLvimZXV3CVInux
3cIM2vZvk4NueD/tyMzT8k+WYRLlBj+0bPN64y1MVQ4EouW1lqW+bvbyb+7JT3RyTbMbTHar0xy9DfFqG5kQ61oFDD9M6
cvd9vzhmqbtqy2S9f6iQn41fb5s9825VY/k3AGzydAAVmdy/5g7+04URJ96ofnsHJ1+2mgLNT4w/ve52XcAYTWtVU/Exer4H
aFnNdtDt1A2cUpgl76XaGvcM1DCueZwFZZfL2fPbhd+ET2+KnhDcwH6S6k6mLWnt218fJpf2pEdstTjZvhb+3770AHRD
rTQD7BV6YtsH+CLLRJh00zB43FlbTNA+4FqsHYovXB7TFHAD3NzweH9P3d3qNPfFwkPe5K09g/LlnU1YGQa+Zg8DX3GHw
a/aQCuibMLRpuBaOwzqqBBfDkVUEB6anMhwCngpXSPgqXSESUjHmKh+qEpsUVBmiw1ID6v0juWmEB2qL1QOyxuE12IOA
dazTIYw9n1FWR3aibYjwEwfc/R2n7KNynjUXxi4XspQ/VqfLhLulSfmK8eFhIhVdI3E7VciGQCIuZwVWlj+bpvfh8Y1G2e
PzDLcPbY9BOSuW7BWWBDUbhYDcDnOfu/hoVEjnfSgYARXZF2nuK6A4eWnt+W8LKr5nRlyYvzeZRicrLGD38Xs83ynjK8
inEih1dFNGxH60sUAu69vjLbPu2OglbZ6RQcbTjw/9T1yYvGbpXhCsDEWThBGFmVvrMx1Fm/8pcz905Q2ahhW/YLHlom5
RokyH4YmbwiWekqs3UuPr23S3mhlw351Y11x2SQMvvQ1JzKiz2OaPH6ELWYQyAVTY+5DY/c1M1hAKxv0+OWDWEFHRqkN
+3N4KntDsHZYQ0bP28tjPevHh7pLh4D8Rqx7Pn+nxH/UKYJ1YalSLHwQW3KM5nL+btM5gzszioyUvFzLj+2mWtXpDTR
hKVDLWotLEWOkP5hJepDFUICqs3rJwovjDgqYOTCPKMIESH+My1IYJU9+sgt5cf+RLF7ZFs6Rtp910t/8ttYaLNRgm85
lpT40ZahXyVilSuPU6I+vGHP00lakEz1ntP118p2oywLWzJawgLGryv/sCnF/B5aifKw4Px8fNaFbpm23pqtPqWU2I2uV
jLNRaVSlVIO/hGooWiSdDqdzKruZgaGtS8WKFCTPfoAkrxbyWms6oadvZjSp7ttQpJKxHpXGFURuE+oOFRzrFz2HB9ng
hxedOMBIO9Cw5kQglurvI3KKpUk2cnwkAu81RXK3wnXcNpZ8grdOavv53HlKpT7Xw0iYULnoA4y1rLe2MtlQpVs5E9T
ESU49KJ4pUImvQegfPV7i18TW1Eq2UJHSf6N4M+4t5ECvvdv7hcuUFBK1wNb76f1G3Ex6HxmEATrLeT7mc7aE9BD1k
5Kq9Hx1PVQ+OVZYY4oEU/5qcKo1V01AH51rtR36rFJYGX1oHGyt2kMDimbuWtxX+4tTfzTGDuS2OcrWWRQsEVVuk9W4Lfp
mpc6VbpPtn/ZUNWV1FXpIHuCHU/4d9679bdPhFvng+OoTHS3DT5qum1d+Uw0kSGmb3gm2LXUAbau7iWtRoky07CjT45Dsg
myC4xJ8Wh+pv9/xXGekfKchTI7yU2PQjR9G8IEkYspQ1z3vNm1qum0ydBuoLsgguQAXadOax/FII7Y2XKUKDI5cKdpmhvjRjE
fuB1eQVS7cdV1Bdr1wp7pcuMMZNdSeHZVDMrwlpeW03CmTz1Tjgc1lM1VOQZXkOmuyjF0Bdn1qhyqy1U5cPIGVY7DeMr
kwJ0yOvo9ZXRkN2fK5MLd4Aoy/TTI91NHT2Hk6KgyduWqHYPL0SgehNQOZXKUKDI5WgV1c1QhZXJUIVWYVaHB5ahCgyuo
gK4qNHQ5qpByuarQ4HJUIdxnHW5g1M1RQsrkwtTgcmBqcDn8weBy1LXB5cUCrkwNbgcmLbPp0ixpiNDyuSKU01DEFQVA
y3K5KgeyuRALDK56tDgCrLqNCxHRx0a0TogpYUoJ34HHUoJhPNWYDyXGSDK7T1vwTMWmBqcyM/LxuLvL5bXFZfcrhZw
mY0Dz/fweAAAD//wMAUESDBBQABgATAAAAQIAKIRf4zEAANGLCAASAAAAAeGwvY29ubmVjdGllvbnMueG1sbjJNbnxpDIB
vlfofrLmXXRK1agNDhKCRkLICdUnTA5dhixt5mPlmaXh38dL2yRFva09tt/Xj3d8++QdHJGSjUGK4aAUgEFHY0MjxcP6
7sNnASmrYJSLAAU4YRK3k/fvxjgGgDpzWwKeEZU+5zbn6JIEo9epUFsMfDLlPjXmUNq1tQSKpP2iNm74qosPxVe2Samb
8aBNWxEQDT6zjWnN1ShH173PyM+6CVbzfzqDuPAdNdYK5ygrq2JHGthly+JSNy19gao5c0RHCY6RDgVnjZWRACyIOiO
3U2SMLShWqjz8uegXkU8vpjwIId4Ts33z/i+xaufBpQ00Xc7+UJ3E3tR5oCY07MMqX4BSJhwyUKbrsLZNMWtYfNY2/Yrs
pJ+ZgtiuCV7ZSrCgerUGSVb28n64G16NFYniQymigRt2RzSdZ16vFanV7SvklC4uwi3JNHXKP7T3AjH252MiLDZn06A1H
+YJxVM1/wCz6VmW7ta6XGo5gtcN8gmV7vr680hdVnVzqYV+1wRVNCi/EkUsvI73/Af9h+uf1/UZ71AUk3F0gmUCCYO5j
1r19+ezUPw1J+vcjCFnzpR12RcXr6D+CdLkGQAA//8DAFBLAWQUAAYACAAAACEALmnZ2SkBAAABAAAJwAAHhL3ByaW

</soap:Envelope>

5 Security

5.1 Security Considerations for Implementers

There are security risks associated with exposing session identifiers (2). If the session identifier is exposed, it is possible for an attacker to read information from, or modify data in, a session (2) on the protocol server. An implementer of this protocol is to consider keeping session identifiers protected. There could be some cases where it is desirable to expose the session identifier, but implementers are to use caution in how they expose session identifiers and consider the security risks.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this appendix.

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:tns="http://schemas.microsoft.com/office/excel/server/webservices"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
targetNamespace="http://schemas.microsoft.com/office/excel/server/webservices"
xmlns:wSDL="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema attributeFormDefault="unqualified" elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/excel/server/webservices">
      <xs:element name="GetApiVersion">
        <xs:complexType/>
      </xs:element>
      <xs:element name="GetApiVersionResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetApiVersionResult"
type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="ArrayOfStatus">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="unbounded" name="Status" nillable="true"
type="tns:Status"/>
        </xs:sequence>
      </xs:complexType>
      <xs:complexType name="Status">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
          <xs:element minOccurs="0" maxOccurs="1" name="Severity" type="xs:string"/>
          <xs:element minOccurs="0" maxOccurs="1" name="Message" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="NewWorkbook">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="path" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="NewWorkbookResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="NewWorkbookResult"
type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="OpenWorkbookForEditing">
```

```

    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="OpenWorkbookForEditingResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookForEditingResult"
type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="OpenWorkbook">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="OpenWorkbookResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookResult"
type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="CloseWorkbook">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="CloseWorkbookResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="Refresh">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="connectionName" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="RefreshResponse">
    <xs:complexType>

```

```

        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="SaveWorkbook">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="SaveWorkbookResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="SaveWorkbookCopy">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
          <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
          <xs:element minOccurs="1" maxOccurs="1" name="workbookType"
type="tns:WorkbookType"/>
          <xs:element minOccurs="1" maxOccurs="1" name="saveOptions"
type="tns:SaveOptions"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:simpleType name="WorkbookType">
      <xs:restriction base="xs:string">
        <xs:enumeration value="FullWorkbook"/>
        <xs:enumeration value="FullSnapshot"/>
        <xs:enumeration value="PublishedItemsSnapshot"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="SaveOptions">
      <xs:list>
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:enumeration value="None"/>
            <xs:enumeration value="AllowOverwrite"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:list>
    </xs:simpleType>
    <xs:element name="SaveWorkbookCopyResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="Calculate">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>

```



```

        <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="rangeCoordinates"
type="tns:RangeCoordinates"/>
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:complexType name="RangeCoordinates">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Row" type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Column" type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="CalculateResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="CalculateA1">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="CalculateA1Response">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetRange">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="rangeCoordinates"
type="tns:RangeCoordinates"/>
            <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetRangeResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetRangeResult"
type="tns:ArrayOfAnyType"/>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="ArrayOfAnyType">
    <xs:sequence>

```

```

        <xs:element minOccurs="0" maxOccurs="unbounded" name="anyType" nillable="true"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="TypeExporter">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="CellError" type="tns:CellError"/>
    </xs:sequence>
</xs:complexType>
<xs:simpleType name="CellError">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Div0"/>
        <xs:enumeration value="NA"/>
        <xs:enumeration value="Name"/>
        <xs:enumeration value="Null"/>
        <xs:enumeration value="Num"/>
        <xs:enumeration value="Ref"/>
        <xs:enumeration value="Value"/>
    </xs:restriction>
</xs:simpleType>
<xs:element name="GetRangeA1">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
            <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetRangeA1Response">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetRangeA1Result"
type="tns:ArrayOfAnyType"/>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetCell">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
            <xs:element minOccurs="1" maxOccurs="1" name="row" type="xs:int"/>
            <xs:element minOccurs="1" maxOccurs="1" name="column" type="xs:int"/>
            <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetCellResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetCellResult"/>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetCellA1">
    <xs:complexType>

```

```

        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
          <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
          <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
          <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetCellA1Response">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="GetCellA1Result"/>
          <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetPublishedItemNames">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:complexType name="WorkbookItem">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:ItemType"/>
      </xs:sequence>
    </xs:complexType>
    <xs:simpleType name="ItemType">
      <xs:restriction base="xs:string">
        <xs:enumeration value="Chart"/>
        <xs:enumeration value="PivotTable"/>
        <xs:enumeration value="Table"/>
        <xs:enumeration value="NamedRange"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="ArrayOfWorkbookItem">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="WorkbookItem" nillable="true"
type="tns:WorkbookItem"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="GetPublishedItemNamesResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="GetPublishedItemNamesResult"
type="tns:ArrayOfWorkbookItem"/>
          <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetSheetNames">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>

```

```

<xs:complexType name="SheetInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:SheetType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Visibility"
type="tns:SheetVisibility"/>
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="SheetType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Worksheet"/>
    <xs:enumeration value="Chartsheet"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="SheetVisibility">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Visible"/>
    <xs:enumeration value="Hidden"/>
    <xs:enumeration value="VeryHidden"/>
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="ArrayOfSheetInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="SheetInfo" nillable="true"
type="tns:SheetInfo"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="GetSheetNamesResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetSheetNamesResult"
type="tns:ArrayOfSheetInfo"/>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetRange">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeCoordinates"
type="tns:RangeCoordinates"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeValues"
type="tns:ArrayOfAnyType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetRangeResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetRangeA1">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="rangeValues"
type="tns:ArrayOfAnyType"/>
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="SetRangeA1Response">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SetCell">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
            <xs:element minOccurs="1" maxOccurs="1" name="row" type="xs:int"/>
            <xs:element minOccurs="1" maxOccurs="1" name="column" type="xs:int"/>
            <xs:element minOccurs="0" maxOccurs="1" name="cellValue"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SetCellResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SetCellA1">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="sheetName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="rangeName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="cellValue"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SetCellA1Response">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="CalculateWorkbook">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="1" maxOccurs="1" name="calculateType"
type="tns:CalculateType"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:simpleType name="CalculateType">

```

```

    <xs:restriction base="xs:string">
      <xs:enumeration value="Recalculate"/>
      <xs:enumeration value="CalculateFull"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="CalculateWorkbookResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetSessionInformation">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetSessionInformationResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="serverVersion" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="uiCultureNameUsed"
type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="dataCultureNameUsed"
type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="CancelRequest">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="CancelRequestResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetWorkbook">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
        <xs:element minOccurs="1" maxOccurs="1" name="workbookType"
type="tns:WorkbookType"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetWorkbookResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="GetWorkbookResult"
type="xs:base64Binary"/>

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="SetParameters">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="parameters"
type="tns:ArrayOfParameterInfo"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="ArrayOfParameterInfo">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="ParameterInfo"
nillable="true" type="tns:ParameterInfo"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ParameterInfo">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfString"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfString">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="xs:string"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="SetParametersResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SetCalculationOptions">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            <xs:element minOccurs="1" maxOccurs="1" name="calcType"
type="tns:WorkbookCalculation"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:simpleType name="WorkbookCalculation">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Manual"/>
        <xs:enumeration value="Automatic"/>
        <xs:enumeration value="Semiautomatic"/>
    </xs:restriction>
</xs:simpleType>
<xs:element name="SetCalculationOptionsResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

    </xs:complexType>
  </xs:element>
  <xs:element name="GetChartImageUrl">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="size" type="tns:Size"/>
        <xs:element minOccurs="0" maxOccurs="1" name="chartName" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="Size">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="GetChartImageUrlResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="GetChartImageUrlResult"
type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="EnsureWorkbookModel">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="WorkbookModelInfo">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="Server" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="Database" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="SessionInteractivityTimeout"
type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="Version" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="EnsureWorkbookModelResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="EnsureWorkbookModelResult"
type="tns:WorkbookModelInfo"/>
        <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="OpenWorkbookEx">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="workbookPath" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="uiCultureName" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="dataCultureName" type="xs:string"/>
        <xs:element minOccurs="1" maxOccurs="1" name="exclusive" type="xs:boolean"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```



```

        </xs:complexType>
    </xs:element>
    <xs:element name="OpenWorkbookExResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookExResult"
type="xs:string"/>
                <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetWorkbookConnections">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetWorkbookConnectionsResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="GetWorkbookConnectionsResult"
type="tns:ArrayOfString"/>
                <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="RefreshEx">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="sessionId" type="xs:string"/>
                <xs:element minOccurs="0" maxOccurs="1" name="connectionName" type="xs:string"/>
                <xs:element minOccurs="0" maxOccurs="1" name="targetApplicationId"
type="xs:string"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="RefreshExResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="status" type="tns:ArrayOfStatus"/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:simpleType name="RangeReference">
        <xs:restriction base="xs:string"/>
    </xs:simpleType>
    <xs:simpleType name="SheetName">
        <xs:restriction base="xs:string"/>
    </xs:simpleType>
</xs:schema>
</wsdl:types>
<wsdl:portType name="ExcelServiceSoap">
    <wsdl:operation name="GetApiVersion">
        <wsdl:input message="tns:GetApiVersionSoapIn"/>
        <wsdl:output message="tns:GetApiVersionSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="NewWorkbook">
        <wsdl:input message="tns:NewWorkbookSoapIn"/>

```

```

    <wsdl:output message="tns:NewWorkbookSoapOut"/>
</wsdl:operation>
<wsdl:operation name="OpenWorkbookForEditing">
    <wsdl:input message="tns:OpenWorkbookForEditingSoapIn"/>
    <wsdl:output message="tns:OpenWorkbookForEditingSoapOut"/>
</wsdl:operation>
<wsdl:operation name="OpenWorkbook">
    <wsdl:input message="tns:OpenWorkbookSoapIn"/>
    <wsdl:output message="tns:OpenWorkbookSoapOut"/>
</wsdl:operation>
<wsdl:operation name="CloseWorkbook">
    <wsdl:input message="tns:CloseWorkbookSoapIn"/>
    <wsdl:output message="tns:CloseWorkbookSoapOut"/>
</wsdl:operation>
<wsdl:operation name="Refresh">
    <wsdl:input message="tns:RefreshSoapIn"/>
    <wsdl:output message="tns:RefreshSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SaveWorkbook">
    <wsdl:input message="tns:SaveWorkbookSoapIn"/>
    <wsdl:output message="tns:SaveWorkbookSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SaveWorkbookCopy">
    <wsdl:input message="tns:SaveWorkbookCopySoapIn"/>
    <wsdl:output message="tns:SaveWorkbookCopySoapOut"/>
</wsdl:operation>
<wsdl:operation name="Calculate">
    <wsdl:input message="tns:CalculateSoapIn"/>
    <wsdl:output message="tns:CalculateSoapOut"/>
</wsdl:operation>
<wsdl:operation name="CalculateA1">
    <wsdl:input message="tns:CalculateA1SoapIn"/>
    <wsdl:output message="tns:CalculateA1SoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetRange">
    <wsdl:input message="tns:GetRangeSoapIn"/>
    <wsdl:output message="tns:GetRangeSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetRangeA1">
    <wsdl:input message="tns:GetRangeA1SoapIn"/>
    <wsdl:output message="tns:GetRangeA1SoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetCell">
    <wsdl:input message="tns:GetCellSoapIn"/>
    <wsdl:output message="tns:GetCellSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetCellA1">
    <wsdl:input message="tns:GetCellA1SoapIn"/>
    <wsdl:output message="tns:GetCellA1SoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetPublishedItemNames">
    <wsdl:input message="tns:GetPublishedItemNamesSoapIn"/>
    <wsdl:output message="tns:GetPublishedItemNamesSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetSheetNames">
    <wsdl:input message="tns:GetSheetNamesSoapIn"/>
    <wsdl:output message="tns:GetSheetNamesSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetRange">

```

```

    <wsdl:input message="tns:SetRangeSoapIn"/>
    <wsdl:output message="tns:SetRangeSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetRangeA1">
    <wsdl:input message="tns:SetRangeA1SoapIn"/>
    <wsdl:output message="tns:SetRangeA1SoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetCell">
    <wsdl:input message="tns:SetCellSoapIn"/>
    <wsdl:output message="tns:SetCellSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetCellA1">
    <wsdl:input message="tns:SetCellA1SoapIn"/>
    <wsdl:output message="tns:SetCellA1SoapOut"/>
</wsdl:operation>
<wsdl:operation name="CalculateWorkbook">
    <wsdl:input message="tns:CalculateWorkbookSoapIn"/>
    <wsdl:output message="tns:CalculateWorkbookSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetSessionInformation">
    <wsdl:input message="tns:GetSessionInformationSoapIn"/>
    <wsdl:output message="tns:GetSessionInformationSoapOut"/>
</wsdl:operation>
<wsdl:operation name="CancelRequest">
    <wsdl:input message="tns:CancelRequestSoapIn"/>
    <wsdl:output message="tns:CancelRequestSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetWorkbook">
    <wsdl:input message="tns:GetWorkbookSoapIn"/>
    <wsdl:output message="tns:GetWorkbookSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetParameters">
    <wsdl:input message="tns:SetParametersSoapIn"/>
    <wsdl:output message="tns:SetParametersSoapOut"/>
</wsdl:operation>
<wsdl:operation name="SetCalculationOptions">
    <wsdl:input message="tns:SetCalculationOptionsSoapIn"/>
    <wsdl:output message="tns:SetCalculationOptionsSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetChartImageUrl">
    <wsdl:input message="tns:GetChartImageUrlSoapIn"/>
    <wsdl:output message="tns:GetChartImageUrlSoapOut"/>
</wsdl:operation>
<wsdl:operation name="EnsureWorkbookModel">
    <wsdl:input message="tns:EnsureWorkbookModelSoapIn"/>
    <wsdl:output message="tns:EnsureWorkbookModelSoapOut"/>
</wsdl:operation>
<wsdl:operation name="OpenWorkbookEx">
    <wsdl:input message="tns:OpenWorkbookExSoapIn"/>
    <wsdl:output message="tns:OpenWorkbookExSoapOut"/>
</wsdl:operation>
<wsdl:operation name="GetWorkbookConnections">
    <wsdl:input message="tns:GetWorkbookConnectionsSoapIn"/>
    <wsdl:output message="tns:GetWorkbookConnectionsSoapOut"/>
</wsdl:operation>
<wsdl:operation name="RefreshEx">
    <wsdl:input message="tns:RefreshExSoapIn"/>
    <wsdl:output message="tns:RefreshExSoapOut"/>
</wsdl:operation>

```

```

</wsdl:portType>
<wsdl:binding name="ExcelServiceSoap" type="tns:ExcelServiceSoap">
  <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
  <wsdl:operation name="GetApiVersion">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetApiVersion"
style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="NewWorkbook">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/NewWorkbook"
style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="OpenWorkbookForEditing">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbookForEditi
ng" style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="OpenWorkbook">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbook"
style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="CloseWorkbook">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CloseWorkbook"
style="document"/>
    <wsdl:input>
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="Refresh">

```

```

    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/Refresh"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SaveWorkbook">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SaveWorkbook"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SaveWorkbookCopy">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SaveWorkbookCopy"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="Calculate">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/Calculate"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="CalculateA1">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CalculateA1"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="GetRange">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetRange"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>

```

```

        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetRangeA1">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetRangeA1"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetCell">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetCell"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetCellA1">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetCellA1"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetPublishedItemNames">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetPublishedItemName
s" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetSheetNames">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetSheetNames"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>

```

```

    <wsdl:operation name="SetRange">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetRange"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetRangeA1">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetRangeA1"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetCell">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetCell"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetCellA1">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetCellA1"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="CalculateWorkbook">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CalculateWorkbook"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetSessionInformation">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetSessionInformatio
n" style="document"/>
      <wsdl:input>

```

```

        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="CancelRequest">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CancelRequest"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="GetWorkbook">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetWorkbook"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SetParameters">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetParameters"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SetCalculationOptions">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetCalculationOptions"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="GetChartImageUrl">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetChartImageUrl"
style="document"/>
    <wsdl:input>
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal"/>
    </wsdl:output>

```



```

    </wsdl:operation>
    <wsdl:operation name="EnsureWorkbookModel">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/EnsureWorkbookModel"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="OpenWorkbookEx">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbookEx"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetWorkbookConnections">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetWorkbookConnections"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RefreshEx">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/RefreshEx"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding name="ExcelServiceSoap12" type="tns:ExcelServiceSoap">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetApiVersion">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetApiVersion"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="NewWorkbook">

```

```

    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/NewWorkbook"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="OpenWorkbookForEditing">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbookForEditi
ng" style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="OpenWorkbook">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbook"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="CloseWorkbook">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CloseWorkbook"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="Refresh">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/Refresh"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SaveWorkbook">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SaveWorkbook"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>

```

```

        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SaveWorkbookCopy">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SaveWorkbookCopy"
style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="Calculate">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/Calculate"
style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="CalculateA1">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CalculateA1"
style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetRange">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetRange"
style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetRangeA1">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetRangeA1"
style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>

```

```

    <wsdl:operation name="GetCell">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetCell"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetCellA1">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetCellA1"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetPublishedItemNames">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetPublishedItemName
s" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetSheetNames">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetSheetNames"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetRange">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetRange"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetRangeA1">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetRangeA1"
style="document"/>
      <wsdl:input>

```

```

        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SetCell">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetCell"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="SetCellA1">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetCellA1"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="CalculateWorkbook">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CalculateWorkbook"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="GetSessionInformation">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetSessionInformation"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="CancelRequest">
    <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/CancelRequest"
style="document"/>
    <wsdl:input>
        <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal"/>
    </wsdl:output>

```

```

    </wsdl:operation>
    <wsdl:operation name="GetWorkbook">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetWorkbook"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetParameters">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetParameters"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="SetCalculationOptions">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/SetCalculationOption
s" style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetChartImageUrl">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetChartImageUrl"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="EnsureWorkbookModel">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/EnsureWorkbookModel"
style="document"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="OpenWorkbookEx">
      <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/OpenWorkbookEx"
style="document"/>

```

```

        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetWorkbookConnections">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/GetWorkbookConnectio
ns" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RefreshEx">
        <soap12:operation
soapAction="http://schemas.microsoft.com/office/excel/server/webservices/RefreshEx"
style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:message name="CalculateA1SoapIn">
    <wsdl:part name="parameters" element="tns:CalculateA1"/>
</wsdl:message>
<wsdl:message name="CalculateA1SoapOut">
    <wsdl:part name="parameters" element="tns:CalculateA1Response"/>
</wsdl:message>
<wsdl:message name="CalculateSoapIn">
    <wsdl:part name="parameters" element="tns:Calculate"/>
</wsdl:message>
<wsdl:message name="CalculateSoapOut">
    <wsdl:part name="parameters" element="tns:CalculateResponse"/>
</wsdl:message>
<wsdl:message name="CalculateWorkbookSoapIn">
    <wsdl:part name="parameters" element="tns:CalculateWorkbook"/>
</wsdl:message>
<wsdl:message name="CalculateWorkbookSoapOut">
    <wsdl:part name="parameters" element="tns:CalculateWorkbookResponse"/>
</wsdl:message>
<wsdl:message name="CancelRequestSoapIn">
    <wsdl:part name="parameters" element="tns:CancelRequest"/>
</wsdl:message>
<wsdl:message name="CancelRequestSoapOut">
    <wsdl:part name="parameters" element="tns:CancelRequestResponse"/>
</wsdl:message>
<wsdl:message name="CloseWorkbookSoapIn">
    <wsdl:part name="parameters" element="tns:CloseWorkbook"/>
</wsdl:message>
<wsdl:message name="CloseWorkbookSoapOut">
    <wsdl:part name="parameters" element="tns:CloseWorkbookResponse"/>

```

```

</wsdl:message>
<wsdl:message name="EnsureWorkbookModelSoapIn">
  <wsdl:part name="parameters" element="tns:EnsureWorkbookModel"/>
</wsdl:message>
<wsdl:message name="EnsureWorkbookModelSoapOut">
  <wsdl:part name="parameters" element="tns:EnsureWorkbookModelResponse"/>
</wsdl:message>
<wsdl:message name="GetApiVersionSoapIn">
  <wsdl:part name="parameters" element="tns:GetApiVersion"/>
</wsdl:message>
<wsdl:message name="GetApiVersionSoapOut">
  <wsdl:part name="parameters" element="tns:GetApiVersionResponse"/>
</wsdl:message>
<wsdl:message name="GetCellA1SoapIn">
  <wsdl:part name="parameters" element="tns:GetCellA1"/>
</wsdl:message>
<wsdl:message name="GetCellA1SoapOut">
  <wsdl:part name="parameters" element="tns:GetCellA1Response"/>
</wsdl:message>
<wsdl:message name="GetCellSoapIn">
  <wsdl:part name="parameters" element="tns:GetCell"/>
</wsdl:message>
<wsdl:message name="GetCellSoapOut">
  <wsdl:part name="parameters" element="tns:GetCellResponse"/>
</wsdl:message>
<wsdl:message name="GetChartImageUrlSoapIn">
  <wsdl:part name="parameters" element="tns:GetChartImageUrl"/>
</wsdl:message>
<wsdl:message name="GetChartImageUrlSoapOut">
  <wsdl:part name="parameters" element="tns:GetChartImageUrlResponse"/>
</wsdl:message>
<wsdl:message name="GetPublishedItemNamesSoapIn">
  <wsdl:part name="parameters" element="tns:GetPublishedItemNames"/>
</wsdl:message>
<wsdl:message name="GetPublishedItemNamesSoapOut">
  <wsdl:part name="parameters" element="tns:GetPublishedItemNamesResponse"/>
</wsdl:message>
<wsdl:message name="GetRangeA1SoapIn">
  <wsdl:part name="parameters" element="tns:GetRangeA1"/>
</wsdl:message>
<wsdl:message name="GetRangeA1SoapOut">
  <wsdl:part name="parameters" element="tns:GetRangeA1Response"/>
</wsdl:message>
<wsdl:message name="GetRangeSoapIn">
  <wsdl:part name="parameters" element="tns:GetRange"/>
</wsdl:message>
<wsdl:message name="GetRangeSoapOut">
  <wsdl:part name="parameters" element="tns:GetRangeResponse"/>
</wsdl:message>
<wsdl:message name="GetSessionInformationSoapIn">
  <wsdl:part name="parameters" element="tns:GetSessionInformation"/>
</wsdl:message>
<wsdl:message name="GetSessionInformationSoapOut">
  <wsdl:part name="parameters" element="tns:GetSessionInformationResponse"/>
</wsdl:message>
<wsdl:message name="GetSheetNamesSoapIn">
  <wsdl:part name="parameters" element="tns:GetSheetNames"/>
</wsdl:message>
<wsdl:message name="GetSheetNamesSoapOut">

```



```

    <wsdl:part name="parameters" element="tns:GetSheetNamesResponse"/>
</wsdl:message>
<wsdl:message name="GetWorkbookConnectionsSoapIn">
  <wsdl:part name="parameters" element="tns:GetWorkbookConnections"/>
</wsdl:message>
<wsdl:message name="GetWorkbookConnectionsSoapOut">
  <wsdl:part name="parameters" element="tns:GetWorkbookConnectionsResponse"/>
</wsdl:message>
<wsdl:message name="GetWorkbookSoapIn">
  <wsdl:part name="parameters" element="tns:GetWorkbook"/>
</wsdl:message>
<wsdl:message name="GetWorkbookSoapOut">
  <wsdl:part name="parameters" element="tns:GetWorkbookResponse"/>
</wsdl:message>
<wsdl:message name="NewWorkbookSoapIn">
  <wsdl:part name="parameters" element="tns:NewWorkbook"/>
</wsdl:message>
<wsdl:message name="NewWorkbookSoapOut">
  <wsdl:part name="parameters" element="tns:NewWorkbookResponse"/>
</wsdl:message>
<wsdl:message name="OpenWorkbookExSoapIn">
  <wsdl:part name="parameters" element="tns:OpenWorkbookEx"/>
</wsdl:message>
<wsdl:message name="OpenWorkbookExSoapOut">
  <wsdl:part name="parameters" element="tns:OpenWorkbookExResponse"/>
</wsdl:message>
<wsdl:message name="OpenWorkbookForEditingSoapIn">
  <wsdl:part name="parameters" element="tns:OpenWorkbookForEditing"/>
</wsdl:message>
<wsdl:message name="OpenWorkbookForEditingSoapOut">
  <wsdl:part name="parameters" element="tns:OpenWorkbookForEditingResponse"/>
</wsdl:message>
<wsdl:message name="OpenWorkbookSoapIn">
  <wsdl:part name="parameters" element="tns:OpenWorkbook"/>
</wsdl:message>
<wsdl:message name="OpenWorkbookSoapOut">
  <wsdl:part name="parameters" element="tns:OpenWorkbookResponse"/>
</wsdl:message>
<wsdl:message name="RefreshExSoapIn">
  <wsdl:part name="parameters" element="tns:RefreshEx"/>
</wsdl:message>
<wsdl:message name="RefreshExSoapOut">
  <wsdl:part name="parameters" element="tns:RefreshExResponse"/>
</wsdl:message>
<wsdl:message name="RefreshSoapIn">
  <wsdl:part name="parameters" element="tns:Refresh"/>
</wsdl:message>
<wsdl:message name="RefreshSoapOut">
  <wsdl:part name="parameters" element="tns:RefreshResponse"/>
</wsdl:message>
<wsdl:message name="SaveWorkbookCopySoapIn">
  <wsdl:part name="parameters" element="tns:SaveWorkbookCopy"/>
</wsdl:message>
<wsdl:message name="SaveWorkbookCopySoapOut">
  <wsdl:part name="parameters" element="tns:SaveWorkbookCopyResponse"/>
</wsdl:message>
<wsdl:message name="SaveWorkbookSoapIn">
  <wsdl:part name="parameters" element="tns:SaveWorkbook"/>
</wsdl:message>

```

```
<wsdl:message name="SaveWorkbookSoapOut">
  <wsdl:part name="parameters" element="tns:SaveWorkbookResponse"/>
</wsdl:message>
<wsdl:message name="SetCalculationOptionsSoapIn">
  <wsdl:part name="parameters" element="tns:SetCalculationOptions"/>
</wsdl:message>
<wsdl:message name="SetCalculationOptionsSoapOut">
  <wsdl:part name="parameters" element="tns:SetCalculationOptionsResponse"/>
</wsdl:message>
<wsdl:message name="SetCellA1SoapIn">
  <wsdl:part name="parameters" element="tns:SetCellA1"/>
</wsdl:message>
<wsdl:message name="SetCellA1SoapOut">
  <wsdl:part name="parameters" element="tns:SetCellA1Response"/>
</wsdl:message>
<wsdl:message name="SetCellSoapIn">
  <wsdl:part name="parameters" element="tns:SetCell"/>
</wsdl:message>
<wsdl:message name="SetCellSoapOut">
  <wsdl:part name="parameters" element="tns:SetCellResponse"/>
</wsdl:message>
<wsdl:message name="SetParametersSoapIn">
  <wsdl:part name="parameters" element="tns:SetParameters"/>
</wsdl:message>
<wsdl:message name="SetParametersSoapOut">
  <wsdl:part name="parameters" element="tns:SetParametersResponse"/>
</wsdl:message>
<wsdl:message name="SetRangeA1SoapIn">
  <wsdl:part name="parameters" element="tns:SetRangeA1"/>
</wsdl:message>
<wsdl:message name="SetRangeA1SoapOut">
  <wsdl:part name="parameters" element="tns:SetRangeA1Response"/>
</wsdl:message>
<wsdl:message name="SetRangeSoapIn">
  <wsdl:part name="parameters" element="tns:SetRange"/>
</wsdl:message>
<wsdl:message name="SetRangeSoapOut">
  <wsdl:part name="parameters" element="tns:SetRangeResponse"/>
</wsdl:message>
</wsdl:definitions>
```

7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft Office SharePoint Server 2007
- Microsoft SharePoint Server 2010
- Microsoft SharePoint Server 2013

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

[<1> Section 2.2.9.1:](#) Office SharePoint Server 2007 does not support this error code.

[<2> Section 2.2.9.2:](#) Excel Services 2010 and Excel Services 2013 can use any of the values specified in section [2.2.9.1](#).

[<3> Section 3.1.2.1:](#) Excel Calculation Services 2007, Excel Calculation Services 2010 and Excel Calculation Services 2013 time out sessions (2) that are not edit sessions after a period of inactivity. This period of time is configurable.

[<4> Section 3.1.2.2:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 time out requests after a period of inactivity. This period of time is configurable.

[<5> Section 3.1.2.2:](#) In Excel Calculation Services 2007, Excel Calculation Services 2010 and Excel Calculation Services 2013, only some operations time out. Other operations can exceed the allotted time.

[<6> Section 3.1.4.9:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the sheet (1) that was the **active sheet** when the workbook was opened.

[<7> Section 3.1.4.13:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the sheet (1) that was the active sheet when the workbook was opened.

[<8> Section 3.1.4.18:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 attempt to fall back to a supported language when an unsupported language is requested.

[<9> Section 3.1.4.18:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the language set for the site (2) when none is specified in the request.

[<10> Section 3.1.4.18:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 attempt to fall back to a supported language when an unsupported language is requested.

[<11> Section 3.1.4.18:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the language set for the site (2) when none is specified in the request.

<12> [Section 3.1.4.19:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 have exceptions as noted in [\[MSDN-UFES\]](#).

<13> [Section 3.1.4.19:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 have exceptions as noted in [\[MSDN-UFES\]](#).

<14> [Section 3.1.4.19:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 attempt to fall back to a supported language when an unsupported language is requested.

<15> [Section 3.1.4.19:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the language set for the site (2) when none is specified in the current request.

<16> [Section 3.1.4.19:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 attempt to fall back to a supported language when an unsupported language is requested.

<17> [Section 3.1.4.19:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the language set for the site (2) when none is specified in the current request.

<18> [Section 3.1.4.21:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 have exceptions as noted in [\[MSDN-UFES\]](#).

<19> [Section 3.1.4.21:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 have exceptions as noted in [\[MSDN-UFES\]](#).

<20> [Section 3.1.4.21:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 attempt to fall back to a supported language when an unsupported language is requested.

<21> [Section 3.1.4.21:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the language set for the site (2) when none is specified in the current request.

<22> [Section 3.1.4.21:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 attempt to fall back to a supported language when an unsupported language is requested.

<23> [Section 3.1.4.21:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the language set for the site (2) when none is specified in the current request.

<24> [Section 3.1.4.28:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the sheet (1) that was the active sheet when the workbook was opened.

<25> [Section 3.1.4.30:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 set the values sent by the protocol client and do not return an error if **rangeValues** contains values in only one dimension (a single column (2) or a single row (2)), and if the first worksheet cell of **rangeCoordinates** falls on a workbook parameter.

<26> [Section 3.1.4.31:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 use the sheet (1) that was the active sheet when the workbook was opened.

<27> [Section 3.1.4.31:](#) Excel Services 2007, Excel Services 2010 and Excel Services 2013 set the values sent by the protocol client and do not return an error if **rangeValues** contains values in only one dimension (a single column or a single row), and if the first worksheet cell of **rangeCoordinates** falls on a workbook parameter.

8 Change Tracking

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

9 Index

A

Abstract data model
 [server](#) 38
[Applicability](#) 18
[ArrayOfAnyType complex type](#) 20
[ArrayOfStatus complex type](#) 20
[ArrayOfString complex type](#) 21
[Attribute groups](#) 25
[Attributes](#) 25

C

[Capability negotiation](#) 18
[CellError simple type](#) 23
[Change tracking](#) 173
Common data structures ([section 2.2.9](#) 25, [section 2.2.9](#) 25)
 [faults](#) 25
[Common list of subcodes - fault](#) 35
[Complex types](#) 20
 [ArrayOfAnyType](#) 20
 [ArrayOfStatus](#) 20
 [ArrayOfString](#) 21
 [RangeCoordinates](#) 21
 [Status](#) 22
 [TypeExporter](#) 22

D

Data model - abstract
 [server](#) 38

E

Events
 [local - server](#) 125
 [timer - server](#) 125
Examples
 [get the value of a worksheet cell](#) 126
 [overview](#) 126
 [refresh data and retrieve a workbook example](#)
 129

F

Faults
 [common list of subcodes](#) 35
[Fields - vendor-extensible](#) 18
[Full WSDL](#) 142

G

[Get the value of a worksheet cell example](#) 126
[Glossary](#) 13
[Groups](#) 25

I

[Implementer - security considerations](#) 141
[Index of security parameters](#) 141
[Informative references](#) 16
Initialization
 [server](#) 38
[Introduction](#) 13

L

[List of subcodes – common data structures](#) 25
Local events
 [server](#) 125

M

Message processing
 [server](#) 38
Messages
 [ArrayOfAnyType complex type](#) 20
 [ArrayOfStatus complex type](#) 20
 [ArrayOfString complex type](#) 21
 [attribute groups](#) 25
 [attributes](#) 25
 [CellError simple type](#) 23
 common data structures ([section 2.2.9](#) 25, [section 2.2.9](#) 25)
 [common list of subcodes - fault](#) 35
 [complex types](#) 20
 [elements](#) 20
 [enumerated](#) 19
 [faults](#) 25
 [groups](#) 25
 [namespaces](#) 19
 [RangeCoordinates complex type](#) 21
 [RangeReference simple type](#) 23
 [SheetName simple type](#) 24
 [simple types](#) 22
 [Status complex type](#) 22
 [syntax](#) 19
 [transport](#) 19
 [TypeExporter complex type](#) 22
 [WorkbookType simple type](#) 24

N

[Namespaces](#) 19
[Normative references](#) 15

O

Operations
 [Calculate](#) 40
 [CalculateA1](#) 42
 [CalculateWorkbook](#) 45
 [CancelRequest](#) 48
 [CloseWorkbook](#) 50
 [EnsureWorkbookModel](#) 52
 [GetApiVersion](#) 55
 [GetCell](#) 57

- [GetCellA1](#) 60
- [GetChartImageUrl](#) 63
- [GetPublishedItemNames](#) 65
- [GetRange](#) 69
- [GetRangeA1](#) 72
- [GetSessionInformation](#) 75
- [GetSheetNames](#) 77
- [GetWorkbook](#) 81
- [GetWorkbookConnections](#) 84
- [NewWorkbook](#) 86
- [OpenWorkbook](#) 89
- [OpenWorkbookEx](#) 92
- [OpenWorkbookForEditing](#) 94
- [Refresh](#) 97
- [RefreshEx](#) 100
- [SaveWorkbook](#) 102
- [SaveWorkbookCopy](#) 104
- [SetCalculationOptions](#) 107
- [SetCell](#) 110
- [SetCellA1](#) 113
- [SetParameters](#) 116
- [SetRange](#) 119
- [SetRangeA1](#) 122
- [Overview \(synopsis\)](#) 16
 - [published items returned](#) 17
 - [results returned](#) 17

P

- [Parameters - security index](#) 141
- [Preconditions](#) 17
- [Prerequisites](#) 17
- [Product behavior](#) 171
- Protocol Details
 - [overview](#) 37

R

- [RangeCoordinates complex type](#) 21
- [RangeReference simple type](#) 23
- [References](#) 15
 - [informative](#) 16
 - [normative](#) 15
- [Refresh data and retrieve a workbook example](#) 129
- [Relationship to other protocols](#) 17
- Request timeout
 - [timers](#) 38
- [Results returned](#) 17

S

- Security
 - [implementer considerations](#) 141
 - [parameter index](#) 141
- Sequencing rules
 - [server](#) 38
- Server
 - [abstract data model](#) 38
 - [Calculate operation](#) 40
 - [CalculateA1 operation](#) 42
 - [CalculateWorkbook operation](#) 45
 - [CancelRequest operation](#) 48

- [CloseWorkbook operation](#) 50
- [EnsureWorkbookModel operation](#) 52
- [GetApiVersion operation](#) 55
- [GetCell operation](#) 57
- [GetCellA1 operation](#) 60
- [GetChartImageUrl operation](#) 63
- [GetPublishedItemNames operation](#) 65
- [GetRange operation](#) 69
- [GetRangeA1 operation](#) 72
- [GetSessionInformation operation](#) 75
- [GetSheetNames operation](#) 77
- [GetWorkbook operation](#) 81
- [GetWorkbookConnections operation](#) 84
- [initialization](#) 38
- [local events](#) 125
- [message processing](#) 38
- [NewWorkbook operation](#) 86
- [OpenWorkbook operation](#) 89
- [OpenWorkbookEx operation](#) 92
- [OpenWorkbookForEditing operation](#) 94
- [Refresh operation](#) 97
- [RefreshEx operation](#) 100
- [SaveWorkbook operation](#) 102
- [SaveWorkbookCopy operation](#) 104
- [sequencing rules](#) 38
- [SetCalculationOptions operation](#) 107
- [SetCell operation](#) 110
- [SetCellA1 operation](#) 113
- [SetParameters operation](#) 116
- [SetRange operation](#) 119
- [SetRangeA1 operation](#) 122
- [timer events](#) 125
- Session timeout
 - [timers](#) 38
- [SheetName simple type](#) 24
- [Simple types](#) 22
 - [CellError](#) 23
 - [RangeReference](#) 23
 - [SheetName](#) 24
 - [WorkbookType](#) 24
- [Standards assignments](#) 18
- [Status complex type](#) 22
- Syntax
 - [messages - overview](#) 19

T

- Timer events
 - [server](#) 125
- Timers
 - [request timeout](#) 38
 - [session timeout](#) 38
- [Tracking changes](#) 173
- [Transport](#) 19
- [TypeExporter complex type](#) 22
- Types
 - [complex](#) 20
 - [simple](#) 22

V

- [Vendor-extensible fields](#) 18

[Versioning](#) 18

W

[WorkbookType simple type](#) 24

[WSDL](#) 142