

[MS-EXSPWS2]: Excel Calculation Web Service Version 2 Protocol Specification

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's Open Specification Promise (available here: <http://www.microsoft.com/interop/osp>) or the Community Promise (available here: <http://www.microsoft.com/interop/cp/default.mspx>). 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.
- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail 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
07/13/2009	0.1	Major	Initial Availability
08/28/2009	0.2	Editorial	Revised and edited the technical content
11/06/2009	0.3	Editorial	Revised and edited the technical content
02/19/2010	1.0	Major	Updated and revised the technical content
03/31/2010	1.01	Editorial	Revised and edited the technical content
04/30/2010	1.02	Editorial	Revised and edited the technical content
06/07/2010	1.03	Minor	Updated the technical content
06/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	1.04	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	17
1.2.1 Normative References	17
1.2.2 Informative References	18
1.3 Protocol Overview (Synopsis)	19
1.3.1 Session-based Protocol	19
1.3.2 Protocol Operations	19
1.3.3 Published Items and Results Returned by this Protocol	20
1.4 Relationship to Other Protocols	20
1.5 Prerequisites/Preconditions	20
1.6 Applicability Statement	20
1.7 Versioning and Capability Negotiation	21
1.8 Vendor-Extensible Fields	21
1.9 Standards Assignments	21
2 Messages	22
2.1 Transport	22
2.2 Common Message Syntax	22
2.2.1 Namespaces	22
2.2.2 Messages	23
2.2.3 Elements	23
2.2.4 Complex Types	23
2.2.4.1 ExcelServerMessage (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	26
2.2.4.2 ServerHealthInformation (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	27
2.2.4.3 ArrayOfAnyType	27
2.2.4.4 ArrayOfAutoFilterCriteria	28
2.2.4.5 ArrayOfAutoFilterDateNodeInfo	28
2.2.4.6 ArrayOfExcelServerMessage	28
2.2.4.7 ArrayOfInt	28
2.2.4.8 ArrayOfPivotFilterItem	29
2.2.4.9 ArrayOfPresenceUserInfo	29
2.2.4.10 ArrayOfRangeValuesA1	29
2.2.4.11 ArrayOfSlicerFormatElement	29
2.2.4.12 ArrayOfSlicerItem	30
2.2.4.13 ArrayOfString	30
2.2.4.14 AutoFilterCriteria	31
2.2.4.15 AutoFilterDateNodeInfo	31
2.2.4.16 AutoFilterOptions	32
2.2.4.17 BorderFormat	33
2.2.4.18 CellCompoundValue	34
2.2.4.19 CollaborationParameter	35
2.2.4.20 CollaborationResult	35
2.2.4.21 CollaborationState	35
2.2.4.22 CommandParameter	36
2.2.4.23 CommandResult	38
2.2.4.24 CommandResultExtendedInfo	39
2.2.4.25 ExcelServerMessage	40

2.2.4.26	PeriodicRefreshInfo	41
2.2.4.27	PivotFilterItem.....	41
2.2.4.28	PivotFilterItemList.....	42
2.2.4.29	PivotOperationOptions	42
2.2.4.30	PresenceUserId	45
2.2.4.31	PresenceUserInfo.....	45
2.2.4.32	RangeValuesA1.....	45
2.2.4.33	RequestLimits.....	46
2.2.4.34	ServerHealthInformation	46
2.2.4.35	SheetRange	46
2.2.4.36	SlicerFontType.....	47
2.2.4.37	SlicerFormatElement	48
2.2.4.38	SlicerFormatElementList	49
2.2.4.39	SlicerItem	50
2.2.4.40	SlicerItemList	50
2.2.4.41	SlicerOptions	50
2.2.4.42	SlicerView.....	51
2.2.4.43	TypeExporter	52
2.2.4.44	VisibleSheetRange	53
2.2.4.45	WorkOnBehalf	57
2.2.5	Simple Types.....	57
2.2.5.1	guid (from namespace http://microsoft.com/wsd/types/)	59
2.2.5.2	ExcelServerMessageAppearance (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	59
2.2.5.3	ExcelServerMessageId (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	60
2.2.5.4	ExcelServerMessageSeverity (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	74
2.2.5.5	ExcelServerMessageType (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	74
2.2.5.6	ServerStateFlags (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	75
2.2.5.7	AutoFilterCriteriaType	75
2.2.5.8	AutoFilterDateNodeType	77
2.2.5.9	AutoFilterOperationType	78
2.2.5.10	AutoFilterRelationOperator	79
2.2.5.11	CellError	79
2.2.5.12	CommandParameterFlags	80
2.2.5.13	ExcelServerMessageAppearance	81
2.2.5.14	ExcelServerMessageId	81
2.2.5.15	ExcelServerMessageSeverity	93
2.2.5.16	ExcelServerMessageType	94
2.2.5.17	NamedObjectType.....	94
2.2.5.18	PivotFilterType.....	95
2.2.5.19	RangeReference.....	100
2.2.5.20	ServerStateFlags	101
2.2.5.21	SessionIdentifier	101
2.2.5.22	WorkbookType	102
2.2.6	Attributes.....	102
2.2.7	Groups.....	102
2.2.8	Attribute Groups	103
2.2.9	Faults	103
2.2.9.1	Common list of IDs	103

3 Protocol Details	104
3.1 Server Details	105
3.1.1 Abstract Data Model	105
3.1.2 Timers	106
3.1.2.1 Session Timeout	106
3.1.2.2 Request Timeout	106
3.1.3 Initialization	106
3.1.4 Message Processing Events and Sequencing Rules	106
3.1.4.1 ApplyItemFilter	108
3.1.4.1.1 Messages	109
3.1.4.1.1.1 ExcelServiceSoap_ApplyItemFilter_InputMessage	109
3.1.4.1.1.2 ExcelServiceSoap_ApplyItemFilter_OutputMessage	109
3.1.4.1.2 Elements	109
3.1.4.1.2.1 ApplyItemFilter	109
3.1.4.1.2.2 ApplyItemFilterResponse	110
3.1.4.2 ApplyPivotFilter	111
3.1.4.2.1 Messages	112
3.1.4.2.1.1 ExcelServiceSoap_ApplyPivotFilter_InputMessage	112
3.1.4.2.1.2 ExcelServiceSoap_ApplyPivotFilter_OutputMessage	112
3.1.4.2.2 Elements	112
3.1.4.2.2.1 ApplyPivotFilter	112
3.1.4.2.2.2 ApplyPivotFilterResponse	114
3.1.4.3 ApplyPivotSort	114
3.1.4.3.1 Messages	115
3.1.4.3.1.1 ExcelServiceSoap_ApplyPivotSort_InputMessage	115
3.1.4.3.1.2 ExcelServiceSoap_ApplyPivotSort_OutputMessage	115
3.1.4.3.2 Elements	116
3.1.4.3.2.1 ApplyPivotSort	116
3.1.4.3.2.2 ApplyPivotSortResponse	116
3.1.4.4 ApplyPivotTop10Filter	117
3.1.4.4.1 Messages	118
3.1.4.4.1.1 ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage	118
3.1.4.4.1.2 ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage	118
3.1.4.4.2 Elements	118
3.1.4.4.2.1 ApplyPivotTop10Filter	118
3.1.4.4.2.2 ApplyPivotTop10FilterResponse	119
3.1.4.5 ApplySlicerSelection	119
3.1.4.5.1 Messages	121
3.1.4.5.1.1 ExcelServiceSoap_ApplySlicerSelection_InputMessage	121
3.1.4.5.1.2 ExcelServiceSoap_ApplySlicerSelection_OutputMessage	121
3.1.4.5.2 Elements	121
3.1.4.5.2.1 ApplySlicerSelection	121
3.1.4.5.2.2 ApplySlicerSelectionResponse	122
3.1.4.5.3 Complex Types	122
3.1.4.5.3.1 ArrayOfSlicerItemRange	122
3.1.4.5.3.2 SlicerItemRange	122
3.1.4.6 ApplyTop10Filter	123
3.1.4.6.1 Messages	123
3.1.4.6.1.1 ExcelServiceSoap_ApplyTop10Filter_InputMessage	123
3.1.4.6.1.2 ExcelServiceSoap_ApplyTop10Filter_OutputMessage	124
3.1.4.6.2 Elements	124
3.1.4.6.2.1 ApplyTop10Filter	124
3.1.4.6.2.2 ApplyTop10FilterResponse	125

3.1.4.7	CancelRequest	125
3.1.4.7.1	Messages	126
3.1.4.7.1.1	ExcelServiceSoap_CancelRequest_InputMessage	126
3.1.4.7.1.2	ExcelServiceSoap_CancelRequest_OutputMessage	126
3.1.4.7.2	Elements	126
3.1.4.7.2.1	CancelRequest	126
3.1.4.7.2.2	CancelRequestResponse	127
3.1.4.8	CloseWorkbook	127
3.1.4.8.1	Messages	127
3.1.4.8.1.1	ExcelServiceSoap_CloseWorkbook_InputMessage	127
3.1.4.8.1.2	ExcelServiceSoap_CloseWorkbook_OutputMessage	128
3.1.4.8.2	Elements	128
3.1.4.8.2.1	CloseWorkbook	128
3.1.4.8.2.2	CloseWorkbookResponse	128
3.1.4.9	ConnectAndGetPivotFilterItemList	129
3.1.4.9.1	Messages	129
3.1.4.9.1.1	ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage ...	129
3.1.4.9.1.2	ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage .	130
3.1.4.9.2	Elements	130
3.1.4.9.2.1	ConnectAndGetPivotFilterItemList	130
3.1.4.9.2.2	ConnectAndGetPivotFilterItemListResponse	130
3.1.4.10	ConnectAndGetSlicerItemList	131
3.1.4.10.1	Messages	132
3.1.4.10.1.1	ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage	132
3.1.4.10.1.2	ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage	133
3.1.4.10.2	Elements	133
3.1.4.10.2.1	ConnectAndGetSlicerItemList	133
3.1.4.10.2.2	ConnectAndGetSlicerItemListResponse	133
3.1.4.11	ExpandCollapseOutline	134
3.1.4.11.1	Messages	134
3.1.4.11.1.1	ExcelServiceSoap_ExpandCollapseOutline_InputMessage	134
3.1.4.11.1.2	ExcelServiceSoap_ExpandCollapseOutline_OutputMessage	134
3.1.4.11.2	Elements	135
3.1.4.11.2.1	ExpandCollapseOutline	135
3.1.4.11.2.2	ExpandCollapseOutlineResponse	136
3.1.4.12	FindRange	136
3.1.4.12.1	Messages	137
3.1.4.12.1.1	ExcelServiceSoap_FindRange_InputMessage	137
3.1.4.12.1.2	ExcelServiceSoap_FindRange_OutputMessage	137
3.1.4.12.2	Elements	137
3.1.4.12.2.1	FindRange	137
3.1.4.12.2.2	FindRangeResponse	138
3.1.4.12.3	Complex Types	138
3.1.4.12.3.1	SheetCell	138
3.1.4.13	GetAutoFilterItemList	139
3.1.4.13.1	Messages	140
3.1.4.13.1.1	ExcelServiceSoap_GetAutoFilterItemList_InputMessage	140
3.1.4.13.1.2	ExcelServiceSoap_GetAutoFilterItemList_OutputMessage	141
3.1.4.13.2	Elements	141
3.1.4.13.2.1	GetAutoFilterItemList	141
3.1.4.13.2.2	GetAutoFilterItemListResponse	141
3.1.4.13.3	Complex Types	142
3.1.4.13.3.1	AutoFilterItemList	142

3.1.4.13.3.2	ArrayOfAutoFilterItem	146
3.1.4.13.3.3	AutoFilterItem	146
3.1.4.14	GetChart.....	146
3.1.4.14.1	Messages	147
3.1.4.14.1.1	ExcelServiceSoap_GetChart_InputMessage	147
3.1.4.14.1.2	ExcelServiceSoap_GetChart_OutputMessage	147
3.1.4.14.2	Elements.....	147
3.1.4.14.2.1	GetChart.....	147
3.1.4.14.2.2	GetChartResponse	148
3.1.4.14.3	Complex Types	148
3.1.4.14.3.1	GetChartInformation	148
3.1.4.15	GetHealthScore	149
3.1.4.15.1	Messages	149
3.1.4.15.1.1	ExcelServiceSoap_GetHealthScore_InputMessage	149
3.1.4.15.1.2	ExcelServiceSoap_GetHealthScore_OutputMessage	149
3.1.4.15.2	Elements.....	150
3.1.4.15.2.1	GetHealthScore	150
3.1.4.15.2.2	GetHealthScoreResponse	150
3.1.4.16	GetImage	150
3.1.4.16.1	Messages	151
3.1.4.16.1.1	ExcelServiceSoap_GetImage_InputMessage.....	151
3.1.4.16.1.2	ExcelServiceSoap_GetImage_OutputMessage.....	151
3.1.4.16.2	Elements.....	151
3.1.4.16.2.1	GetImage	151
3.1.4.16.2.2	GetImageResponse	151
3.1.4.17	GetObjectInformation.....	152
3.1.4.17.1	Messages	152
3.1.4.17.1.1	ExcelServiceSoap_GetObjectInformation_InputMessage	152
3.1.4.17.1.2	ExcelServiceSoap_GetObjectInformation_OutputMessage	153
3.1.4.17.2	Elements.....	153
3.1.4.17.2.1	GetObjectInformation.....	153
3.1.4.17.2.2	GetObjectInformationResponse	153
3.1.4.17.3	Complex Types	154
3.1.4.17.3.1	ObjectInformation.....	154
3.1.4.18	GetPivotFilterItemList.....	154
3.1.4.18.1	Messages	155
3.1.4.18.1.1	ExcelServiceSoap_GetPivotFilterItemList_InputMessage	155
3.1.4.18.1.2	ExcelServiceSoap_GetPivotFilterItemList_OutputMessage	155
3.1.4.18.2	Elements.....	155
3.1.4.18.2.1	GetPivotFilterItemList.....	155
3.1.4.18.2.2	GetPivotFilterItemListResponse	156
3.1.4.19	GetPivotMenu	156
3.1.4.19.1	Messages	157
3.1.4.19.1.1	ExcelServiceSoap_GetPivotMenu_InputMessage	157
3.1.4.19.1.2	ExcelServiceSoap_GetPivotMenu_OutputMessage	157
3.1.4.19.2	Elements.....	157
3.1.4.19.2.1	GetPivotMenu.....	157
3.1.4.19.2.2	GetPivotMenuResponse	158
3.1.4.19.3	Complex Types	158
3.1.4.19.3.1	PivotMenu.....	158
3.1.4.19.3.2	ArrayOfPivotField	159
3.1.4.19.3.3	PivotField.....	159
3.1.4.19.3.4	ArrayOfPivotFilterParameter	165

3.1.4.19.3.5	PivotFilterParameter.....	166
3.1.4.19.3.6	Top10FilterParameter.....	167
3.1.4.19.4	Simple Types.....	168
3.1.4.19.4.1	Top10FilterType.....	168
3.1.4.20	GetPublishedObjects.....	168
3.1.4.20.1	Messages.....	169
3.1.4.20.1.1	ExcelServiceSoap_GetPublishedObjects_InputMessage.....	169
3.1.4.20.1.2	ExcelServiceSoap_GetPublishedObjects_OutputMessage.....	169
3.1.4.20.2	Elements.....	169
3.1.4.20.2.1	GetPublishedObjects.....	169
3.1.4.20.2.2	GetPublishedObjectsResponse.....	170
3.1.4.20.3	Complex Types.....	170
3.1.4.20.3.1	ArrayOfPublishedObjectName.....	170
3.1.4.20.3.2	PublishedObjectName.....	170
3.1.4.20.4	Simple Types.....	171
3.1.4.20.4.1	GetPublishedObjectsOptions.....	171
3.1.4.21	GetRange.....	171
3.1.4.21.1	Messages.....	172
3.1.4.21.1.1	ExcelServiceSoap_GetRange_InputMessage.....	172
3.1.4.21.1.2	ExcelServiceSoap_GetRange_OutputMessage.....	172
3.1.4.21.2	Elements.....	172
3.1.4.21.2.1	GetRange.....	172
3.1.4.21.2.2	GetRangeResponse.....	172
3.1.4.22	GetRangeForClipboard.....	173
3.1.4.22.1	Messages.....	174
3.1.4.22.1.1	ExcelServiceSoap_GetRangeForClipboard_InputMessage.....	174
3.1.4.22.1.2	ExcelServiceSoap_GetRangeForClipboard_OutputMessage.....	174
3.1.4.22.2	Elements.....	174
3.1.4.22.2.1	GetRangeForClipboard.....	174
3.1.4.22.2.2	GetRangeForClipboardResponse.....	174
3.1.4.23	GetRangeValues.....	175
3.1.4.23.1	Messages.....	176
3.1.4.23.1.1	ExcelServiceSoap_GetRangeValues_InputMessage.....	176
3.1.4.23.1.2	ExcelServiceSoap_GetRangeValues_OutputMessage.....	176
3.1.4.23.2	Elements.....	177
3.1.4.23.2.1	GetRangeValues.....	177
3.1.4.23.2.2	GetRangeValuesResponse.....	177
3.1.4.24	GetRangeValuesA1.....	177
3.1.4.24.1	Messages.....	179
3.1.4.24.1.1	ExcelServiceSoap_GetRangeValuesA1_InputMessage.....	179
3.1.4.24.1.2	ExcelServiceSoap_GetRangeValuesA1_OutputMessage.....	179
3.1.4.24.2	Elements.....	179
3.1.4.24.2.1	GetRangeValuesA1.....	179
3.1.4.24.2.2	GetRangeValuesA1Response.....	180
3.1.4.24.3	Simple Types.....	180
3.1.4.24.3.1	CellDataFormat.....	180
3.1.4.25	GetSessionInformation.....	181
3.1.4.25.1	Messages.....	181
3.1.4.25.1.1	ExcelServiceSoap_GetSessionInformation_InputMessage.....	181
3.1.4.25.1.2	ExcelServiceSoap_GetSessionInformation_OutputMessage.....	182
3.1.4.25.2	Elements.....	182
3.1.4.25.2.1	GetSessionInformation.....	182
3.1.4.25.2.2	GetSessionInformationResponse.....	182

3.1.4.26	GetSheetNames.....	183
3.1.4.26.1	Messages	183
3.1.4.26.1.1	ExcelServiceSoap_GetSheetNames_InputMessage	183
3.1.4.26.1.2	ExcelServiceSoap_GetSheetNames_OutputMessage	183
3.1.4.26.2	Elements	184
3.1.4.26.2.1	GetSheetNames.....	184
3.1.4.26.2.2	GetSheetNamesResponse	184
3.1.4.26.3	Complex Types	184
3.1.4.26.3.1	ArrayOfSheetName	184
3.1.4.26.3.2	SheetName	185
3.1.4.26.4	Simple Types	185
3.1.4.26.4.1	SheetType	185
3.1.4.26.4.2	SheetVisibility	185
3.1.4.27	GetSlicerItemList	186
3.1.4.27.1	Messages	187
3.1.4.27.1.1	ExcelServiceSoap_GetSlicerItemList_InputMessage.....	187
3.1.4.27.1.2	ExcelServiceSoap_GetSlicerItemList_OutputMessage	187
3.1.4.27.2	Elements	187
3.1.4.27.2.1	GetSlicerItemList.....	187
3.1.4.27.2.2	GetSlicerItemListResponse.....	188
3.1.4.28	GetSparklines.....	188
3.1.4.28.1	Messages	189
3.1.4.28.1.1	ExcelServiceSoap_GetSparklines_InputMessage	189
3.1.4.28.1.2	ExcelServiceSoap_GetSparklines_OutputMessage	189
3.1.4.28.2	Elements	189
3.1.4.28.2.1	GetSparklines.....	189
3.1.4.28.2.2	GetSparklinesResponse	190
3.1.4.29	GetWorkbook	190
3.1.4.29.1	Messages	191
3.1.4.29.1.1	ExcelServiceSoap_GetWorkbook_InputMessage.....	191
3.1.4.29.1.2	ExcelServiceSoap_GetWorkbook_OutputMessage.....	191
3.1.4.29.2	Elements	191
3.1.4.29.2.1	GetWorkbook	191
3.1.4.29.2.2	GetWorkbookResponse	191
3.1.4.30	OpenWorkbook	192
3.1.4.30.1	Messages	194
3.1.4.30.1.1	ExcelServiceSoap_OpenWorkbook_InputMessage	194
3.1.4.30.1.2	ExcelServiceSoap_OpenWorkbook_OutputMessage	195
3.1.4.30.2	Elements	195
3.1.4.30.2.1	OpenWorkbook.....	195
3.1.4.30.2.2	OpenWorkbookResponse	196
3.1.4.30.3	Complex Types	196
3.1.4.30.3.1	CultureCommandParameter	196
3.1.4.30.3.2	OpenWorkbookOutParameters.....	198
3.1.4.30.4	Simple Types	199
3.1.4.30.4.1	OpenWorkbookFlags.....	199
3.1.4.30.4.2	OpenWorkbookOutFlags	199
3.1.4.31	ParseRange	200
3.1.4.31.1	Messages	201
3.1.4.31.1.1	ExcelServiceSoap_ParseRange_InputMessage	201
3.1.4.31.1.2	ExcelServiceSoap_ParseRange_OutputMessage	201
3.1.4.31.2	Elements	201
3.1.4.31.2.1	ParseRange.....	201

3.1.4.31.2.2	ParseRangeResponse	202
3.1.4.32	Recalc	202
3.1.4.32.1	Messages	203
3.1.4.32.1.1	ExcelServiceSoap_Recalc_InputMessage.....	203
3.1.4.32.1.2	ExcelServiceSoap_Recalc_OutputMessage.....	203
3.1.4.32.2	Elements	203
3.1.4.32.2.1	Recalc	203
3.1.4.32.2.2	RecalcResponse	204
3.1.4.33	RecalcA1.....	204
3.1.4.33.1	Messages	205
3.1.4.33.1.1	ExcelServiceSoap_RecalcA1_InputMessage	205
3.1.4.33.1.2	ExcelServiceSoap_RecalcA1_OutputMessage	205
3.1.4.33.2	Elements	205
3.1.4.33.2.1	RecalcA1	205
3.1.4.33.2.2	RecalcA1Response	206
3.1.4.34	RecalcAll.....	206
3.1.4.34.1	Messages	206
3.1.4.34.1.1	ExcelServiceSoap_RecalcAll_InputMessage	206
3.1.4.34.1.2	ExcelServiceSoap_RecalcAll_OutputMessage	207
3.1.4.34.2	Elements	207
3.1.4.34.2.1	RecalcAll.....	207
3.1.4.34.2.2	RecalcAllResponse	207
3.1.4.34.3	Simple Types	207
3.1.4.34.3.1	CalculateType.....	207
3.1.4.35	Refresh.....	208
3.1.4.35.1	Messages	209
3.1.4.35.1.1	ExcelServiceSoap_Refresh_InputMessage	209
3.1.4.35.1.2	ExcelServiceSoap_Refresh_OutputMessage	209
3.1.4.35.2	Elements	210
3.1.4.35.2.1	Refresh	210
3.1.4.35.2.2	RefreshResponse	210
3.1.4.36	RefreshAll	210
3.1.4.36.1	Messages	211
3.1.4.36.1.1	ExcelServiceSoap_RefreshAll_InputMessage.....	211
3.1.4.36.1.2	ExcelServiceSoap_RefreshAll_OutputMessage	212
3.1.4.36.2	Elements	212
3.1.4.36.2.1	RefreshAll	212
3.1.4.36.2.2	RefreshAllResponse.....	212
3.1.4.37	RemovePivotFilter	212
3.1.4.37.1	Messages	214
3.1.4.37.1.1	ExcelServiceSoap_RemovePivotFilter_InputMessage	214
3.1.4.37.1.2	ExcelServiceSoap_RemovePivotFilter_OutputMessage	214
3.1.4.37.2	Elements	214
3.1.4.37.2.1	RemovePivotFilter	214
3.1.4.37.2.2	RemovePivotFilterResponse.....	215
3.1.4.38	ResizeRowsColumns	215
3.1.4.38.1	Messages	216
3.1.4.38.1.1	ExcelServiceSoap_ResizeRowsColumns_InputMessage	216
3.1.4.38.1.2	ExcelServiceSoap_ResizeRowsColumns_OutputMessage	216
3.1.4.38.2	Elements	216
3.1.4.38.2.1	ResizeRowsColumns.....	216
3.1.4.38.2.2	ResizeRowsColumnsResponse	217
3.1.4.38.3	Complex Types	217

3.1.4.38.3.1	ResizeRowColumnRange	217
3.1.4.39	SaveWorkbook	217
3.1.4.39.1	Messages	218
3.1.4.39.1.1	ExcelServiceSoap_SaveWorkbook_InputMessage	218
3.1.4.39.1.2	ExcelServiceSoap_SaveWorkbook_OutputMessage	218
3.1.4.39.2	Elements	218
3.1.4.39.2.1	SaveWorkbook	218
3.1.4.39.2.2	SaveWorkbookResponse	219
3.1.4.40	SaveWorkbookAs	219
3.1.4.40.1	Messages	220
3.1.4.40.1.1	ExcelServiceSoap_SaveWorkbookAs_InputMessage	220
3.1.4.40.1.2	ExcelServiceSoap_SaveWorkbookAs_OutputMessage	220
3.1.4.40.2	Elements	220
3.1.4.40.2.1	SaveWorkbookAs	220
3.1.4.40.2.2	SaveWorkbookAsResponse	221
3.1.4.40.3	Simple Types	221
3.1.4.40.3.1	SaveAsFlags	221
3.1.4.41	SetCalculationOptions	222
3.1.4.41.1	Messages	223
3.1.4.41.1.1	ExcelServiceSoap_SetCalculationOptions_InputMessage	223
3.1.4.41.1.2	ExcelServiceSoap_SetCalculationOptions_OutputMessage	223
3.1.4.41.2	Elements	223
3.1.4.41.2.1	SetCalculationOptions	223
3.1.4.41.2.2	SetCalculationOptionsResponse	223
3.1.4.41.3	Simple Types	224
3.1.4.41.3.1	WorkbookCalculation	224
3.1.4.42	SetParameters	224
3.1.4.42.1	Messages	225
3.1.4.42.1.1	ExcelServiceSoap_SetParameters_InputMessage	225
3.1.4.42.1.2	ExcelServiceSoap_SetParameters_OutputMessage	226
3.1.4.42.2	Elements	226
3.1.4.42.2.1	SetParameters	226
3.1.4.42.2.2	SetParametersResponse	226
3.1.4.42.3	Complex Types	227
3.1.4.42.3.1	ArrayOfWorkbookParameter	227
3.1.4.42.3.2	WorkbookParameter	227
3.1.4.43	SetRange	228
3.1.4.43.1	Messages	230
3.1.4.43.1.1	ExcelServiceSoap_SetRange_InputMessage	230
3.1.4.43.1.2	ExcelServiceSoap_SetRange_OutputMessage	230
3.1.4.43.2	Elements	230
3.1.4.43.2.1	SetRange	230
3.1.4.43.2.2	SetRangeResponse	231
3.1.4.44	SetRangeA1	231
3.1.4.44.1	Messages	232
3.1.4.44.1.1	ExcelServiceSoap_SetRangeA1_InputMessage	232
3.1.4.44.1.2	ExcelServiceSoap_SetRangeA1_OutputMessage	233
3.1.4.44.2	Elements	233
3.1.4.44.2.1	SetRangeA1	233
3.1.4.44.2.2	SetRangeA1Response	233
3.1.4.45	SortFilterColumn	234
3.1.4.45.1	Messages	234
3.1.4.45.1.1	ExcelServiceSoap_SortFilterColumn_InputMessage	234

3.1.4.45.1.2	ExcelServiceSoap_SortFilterColumn_OutputMessage	234
3.1.4.45.2	Elements	235
3.1.4.45.2.1	SortFilterColumn	235
3.1.4.45.2.2	SortFilterColumnResponse	235
3.1.4.46	TogglePivotDrill	235
3.1.4.46.1	Messages	237
3.1.4.46.1.1	ExcelServiceSoap_TogglePivotDrill_InputMessage	237
3.1.4.46.1.2	ExcelServiceSoap_TogglePivotDrill_OutputMessage	237
3.1.4.46.2	Elements	237
3.1.4.46.2.1	TogglePivotDrill	237
3.1.4.46.2.2	TogglePivotDrillResponse	238
3.1.5	Timer Events	238
3.1.5.1	Session Timeout	238
3.1.5.2	Request Timeout	238
3.1.6	Other Local Events	238
4	Protocol Examples	239
4.1	Filtering and sorting a list and returning XML	239
5	Security	251
5.1	Security Considerations for Implementers	251
5.2	Index of Security Parameters	251
6	Appendix A: Full WSDL	252
7	Appendix B: Product Behavior	325
8	Change Tracking	329
9	Index	330

1 Introduction

This document specifies the Excel Calculation Web Service Version 2 Protocol. This protocol enables communication between a protocol client that displays **workbooks** for viewing and editing with a protocol server that loads and **calculates** workbooks.

1.1 Glossary

The following terms are defined in [\[MS-GLOS\]](#):

- globally unique identifier (GUID)**
- Hypertext Transfer Protocol (HTTP)**
- Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**
- Universal Naming Convention (UNC)**
- XML**

The following terms are defined in [\[MS-OFCGLOS\]](#):

- A1**
- absolute path**
- alert**
- ancestor**
- array formula**
- ascending order**
- AutoFilter**
- automatic calculation mode**
- border**
- border thickness**
- bottom N filter**
- bottom N filter by count**
- bottom N filter by percent**
- bottom N filter by sum**
- calculate**
- calculation mode**
- caption**
- cell**
- cell error value**
- cell value**
- chart sheet**
- checked out**
- child**
- child PivotTable member**
- clear all state**
- collapsed outline state**
- color stop**
- column**
- confirmation**
- connected data**
- control button**
- cube**
- cube function**
- custom filter**
- custom label filter**
- custom value filter**
- data connection**

data culture
data provider
data source
data table
default column
default filter value
default row
descendant
descending order
dimension
document library
edit session
embedded image
endpoint
expand
expanded outline state
expire
external data
fallback data culture
fallback UI culture
farm
file
fill color
filter
filtering state
font face decoration
font face weight
formula
gradient fill
grow
Help topic identifier
hidden
hierarchy
horizontal indent
host data language
Information Rights Management (IRM)
item
level
license key
list
locked
manual calculation mode
manual filter
member
member property
merged cell
named object
named range
new workbook session
non-contiguous range
number format
OLAP
OLAP measure
Online Analytical Processing (OLAP)
Open Item permission

outline
outline collapse
outline expand
outline level
outline state
permission
PivotTable
PivotTable data field
PivotTable filter parameter
PivotTable member
PivotTable page field
point
published
published item
published items snapshot
published range
published sheet
query
R1C1 notation
range
reference
refresh
rights
row
search down
search up
selected
session
session identifier
sheet
single sign-on (SSO) ticket
site collection
site identifier
 slicer
snapshot
SOAP (Simple Object Access Protocol)
SOAP action
SOAP body
SOAP fault
SOAP fault detail
sort
sort order
sparkline
state changing
table
time zone
time zone bias
time zone daylight bias
time zone daylight date
time zone standard bias
time zone standard date
top N filter
top N filter by count
top N filter by percent
top N filter by sum

trusted location
UI culture
URI (Uniform Resource Identifier)
URL zone
user display name
user-defined function (UDF)
view session
view-only mode
visible
Web service
workbook
workbook file
workbook parameter
worksheet
WSDL (Web Services Description Language)
WSDL operation
XML namespace
zero-based index

The following terms are specific to this document:

collapse: The process of closing a level in a dimension hierarchy on a PivotTable® report to hide or aggregate lower-level details in the data.

end user presence: A set of attributes for a user who is participating in an edit session.

filter date value: Any one of a set of possible date values that can be used to define the filter criteria for an AutoFilter.

filter value: Any one of a set of possible values that can be used to define the filter criteria for an AutoFilter.

font face color: A property of a cell that specifies the color that is used to render a font.

Message Bar notification: A message that appears in the area below the ribbon in an application window. It can be a security alert, or information about a workflow task, the active document, or a policy.

PivotTable area: A logical zone that is used to organize data in a PivotTable® report.

PivotTable field: An element in a PivotTable® report that represents a logical collection of data. A PivotTable field can represent a dimension hierarchy or actual data values.

pixel: A discrete unit of display on a computer display device.

recalculate: The process of computing a value in a workbook by initiating a calculation repeatedly.

session recycling: A process in which active sessions (2) are closed to start new sessions and to limit the total number of active sessions.

slicer header: A user interface element that displays the caption for a slicer that can be or is being used to filter one or more PivotTable® reports or cube functions. It also provides a command button for removing all applied filters.

slicer item: A user interface element that displays filter values that can be applied to one or more PivotTable® reports or cube functions by using a slicer.

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

1.2 References

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. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[ISO/IEC-29500-1] International Organization for Standardization, "Information Technology - Document description and processing languages - Office Open XML File Formats - Part 1: Fundamentals and Markup Language Reference", ISO/IEC PRF 29500-1, 2008, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51463

[JFIF] Hamilton, E., "JPEG File Interchange Format, Version 1.02", September 1992, <http://www.w3.org/Graphics/JPEG/jfif.txt>

[MS-EXSPXML] Microsoft Corporation, "[Excel Calculation Web Service XML Schema Specification](#)", July 2009.

[MS-ODBCSTR] Microsoft Corporation, "[ODBC Connection String Structure Specification](#)", June 2008.

[MS-ODCFF] Microsoft Corporation, "[Office Data Connection File Format Structure Specification](#)", June 2008.

[MS-OFFMACRO2] Microsoft Corporation, "[Office Macro-Enabled File Format Version 2 Structure Specification](#)", July 2009.

[MS-OLEDBSTR] Microsoft Corporation, "[OLEDB Connection String Structure Specification](#)", June 2008.

[MS-SPSTWS] Microsoft Corporation, "[SharePoint Security Token Service Web Service Protocol Specification](#)", July 2009.

[MS-XLSB] Microsoft Corporation, "[Excel Binary File Format \(.xlsb\) Structure Specification](#)", June 2008.

[MS-XLSX] Microsoft Corporation, "[Excel Extensions to the Office Open XML SpreadsheetML File Format \(.xlsx\) Specification](#)", July 2009.

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

[RFC2083] Boutell, T., "PNG (Portable Network Graphics) Specification Version 1.0", RFC 2083, March 1997, <http://www.ietf.org/rfc/rfc2083.txt>

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

[RFC2234] Crocker, D., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", RFC 2234, November 1997, <http://www.ietf.org/rfc/rfc2234.txt>

- [RFC2396] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifiers (URI): Generic Syntax", RFC 2396, August 1998, <http://www.ietf.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.ietf.org/rfc/rfc2616.txt>
- [RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.org/rfc/rfc2818.txt>
- [RFC3339] Klyne, G., and Newman, C., "Date and Time on the Internet: Timestamps", RFC 3339, July 2002, <http://www.ietf.org/rfc/rfc3339.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>
- [RFC4122] Leach, P., Mealling, M., and Salz, R., "A Universally Unique Identifier (UUID) URN Namespace", RFC 4122, July 2005, <http://www.ietf.org/rfc/rfc4122.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>
- [WSA1.0 Metadata] Gudgin, M., Ed., Hadley, M., Ed., Rogers, T., Ed., Yalcinalp, U., Ed., "Web Services Addressing 1.0 - Metadata", W3C Recommendation 4 September 2007, <http://www.w3.org/TR/ws-addr-metadata/>
- [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] World Wide Web Consortium, "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation 8 December 2009, <http://www.w3.org/TR/REC-xml-names/>
- [XMLSCHEMA1] Thompson, H.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "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-UFES] Microsoft Corporation, "Unsupported Features in Excel Services", <http://msdn.microsoft.com/en-us/library/ms496823.aspx>
- [MSFT-ACRR] Microsoft Corporation, "About Cell and Range References", <http://office.microsoft.com/en-us/help/HP051983231033.aspx>
- [MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)", March 2007.
- [MS-OFCGLOS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)", June 2008.

1.3 Protocol Overview (Synopsis)

This protocol is used for communication between a protocol server, which provides access to workbooks, and a protocol client, which renders the data provided by the protocol server. The communication is always initiated by the protocol client using different operations, whose functionality is outlined in Protocol Operations (section [1.3.2](#)).

1.3.1 Session-based Protocol

The protocol is **session (2)** based and uses a unique **session identifier (2)**. This session identifier is generated when a new session is created and is used thereafter to refer to that particular session.

- Multiple sessions (2) can exist at the same time.
- Multiple participants can share an individual **edit session**.
- Sessions can be created and closed independently.

1.3.2 Protocol Operations

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

- Open, create new, and close
- Save or retrieve the contents of an open session (2)
- **Recalculation**
- **Refresh connected data**
- Set specific values into a **range**
- Set the formatting, including **number formatting**, for a range
- Get specific values from a range
- Get rendering data for a range
- Retrieve charts and images
- **Sort and filter tables**
- Sort, filter, **expand**, and **collapse PivotTables**
- Filter **cube functions**
- Find values
- Cancel a request
- Get information about a session
- Get the version of the protocol

1.3.3 Published Items and Results Returned by this Protocol

A protocol server can have functionality where only portions of the workbook are available for consumption by protocol clients. The parts of the workbook that are available to be accessed by the protocol client are known as **published**. Some of the operations in this protocol could fail if the workbook item being exposed or changed is not published or if the user does not have sufficient permissions to view items that are not published.

1.4 Relationship to Other Protocols

This protocol uses the SOAP messaging protocol for formatting requests and responses as specified either in [\[SOAP1.1\]](#) or in [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#). It transmits these messages using the HTTP protocol as specified in [\[RFC2616\]](#) or the HTTPS protocol as specified in [\[RFC2818\]](#).

The following diagram shows the underlying messaging and transport stack that the protocol uses:

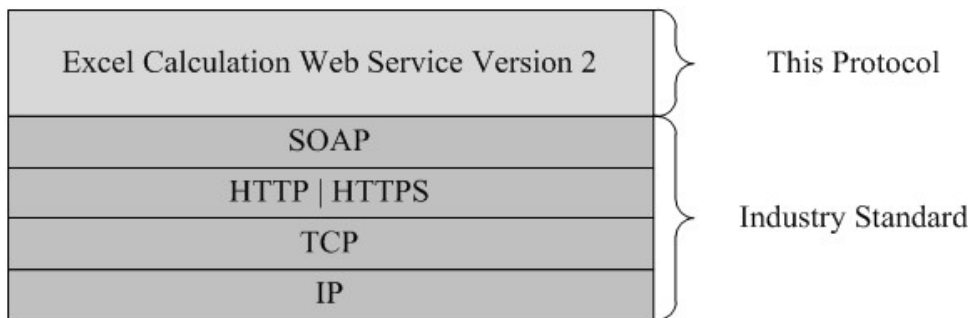


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a protocol server that exposes one or more **endpoint (4) URIs** that are known by protocol clients. The endpoint (4) URI of the protocol server and the transport that is used by the protocol server are either known by the protocol client or obtained by using the discovery mechanism that is described in [\[MS-SPTWS\]](#).

The protocol client obtains the requisite ApplicationClassId and ApplicationVersion values and the endpoint (4) URI of the protocol server that provides the discovery mechanism, as described in [\[MS-SPTWS\]](#), by means that are independent of either protocol.

This protocol requires the protocol client to have appropriate permission to call the methods on the protocol server.

The protocol client implements the token-based security mechanisms that are required by the protocol server and related security protocols, as described in [\[MS-SPSTWS\]](#).

1.6 Applicability Statement

This protocol enables communication between a protocol server, which calculates workbooks, and a protocol client which:

- displays workbooks and allows users to interact with those workbooks.
- provides programmatic access to those workbooks through a public Web service.

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 specified in section [2.1](#).
- **Protocol Versions:** This protocol is not versioned.

Capability Negotiation: This protocol does not support version negotiation.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

In the following sections, the schema definition might be less restrictive than 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 specifies additional restrictions 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, present, and not null.

2.1 Transport

Protocol servers **MUST** support SOAP over **HTTP** or **HTTPS**.

All protocol messages **MUST** be transported by using HTTP bindings at the transport level.

Protocol messages **MUST** be formatted as specified in either [\[SOAP1.1\]](#) section 4 or [\[SOAP1.2/1\]](#) section 5. Protocol server faults **MUST** be returned by using either HTTP status codes, as specified in [\[RFC2616\]](#) section 10, or **SOAP faults**, as specified in [\[SOAP1.1\]](#) section 4.4 or [\[SOAP1.2/1\]](#) section 5.4.

If the HTTPS transport is used, a server certificate **MUST** be deployed.

This protocol **MAY** transmit an additional SOAP header, the **ServiceContext** header, as specified in [\[MS-SPSTWS\]](#).

This protocol does not define any means for activating a protocol server or protocol client. The protocol server **MUST** be configured and begin listening in an implementation-specific way. In addition, the protocol client **MUST** know the format and transport that is used by the protocol server, for example, the SOAP format over an HTTP transport.

2.2 Common Message Syntax

This section contains common structures used by this protocol. The syntax of the structures uses XML Schema, as specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and Web Services Description Language, 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
xsd	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]
soapenc	http://schemas.xmlsoap.org/soap/encoding/	[SOAP1.2/1] [SOAP1.2/2]
tns	http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/	
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]

Prefix	Namespace URI	Reference
		[XMLSCHEMA2]
wsam	http://www.w3.org/2007/05/addressing/metadata	[WSA1.0 Metadata]
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
soap12	http://schemas.xmlsoap.org/wsdl/soap12/	[SOAP1.2/1] [SOAP1.2/2]
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
q1	http://microsoft.com/wsdl/types/	
ecs1	http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server	

2.2.2 Messages

None.

2.2.3 Elements

None.

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
ExcelServerMessage (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	An alert (2) information returned by the protocol server.
ServerHealthInformation (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	Used to return information about the health of the protocol server.
ArrayOfAnyType	The ArrayOfAnyType type is an array of anyType elements.
ArrayOfAutoFilterCriteria	The ArrayOfAutoFilterCriteria type is an array of AutoFilterCriteria elements.
ArrayOfAutoFilterDateNodeInfo	The ArrayOfAutoFilterDateNodeInfo complex type is an array of AutoFilterDateNodeInfo elements.
ArrayOfExcelServerMessage	The ArrayOfExcelServerMessage type is an array of ExcelServerMessage elements.
ArrayOfInt	The ArrayOfInt type is an array of

Complex Type	Description
	integer elements.
ArrayOfPivotFilterItem	The ArrayOfPivotFilterItem type is an array of PivotFilterItem elements.
ArrayOfRangeValuesA1	The ArrayOfRangeValuesA1 type is an array of RangeValuesA1 elements.
ArrayOfSlicerFormatElement	An array of SlicerFormatElement elements.
ArrayOfSlicerItem	An array of SlicerItem elements.
ArrayOfString	The ArrayOfString complex type is used to specify an array of strings.
AutoFilterCriteria	Used to instruct the protocol server on how to apply a filter on an AutoFilter in the workbook.
AutoFilterDateNodeInfo	Specifies how AutoFilter filter date values are filtered by the protocol server.
AutoFilterOptions	Used to specify the filter applied to an AutoFilter column (2) .
BorderFormat	Specifies the formatting to apply to the border of one of the slicer visual components.
CellCompoundValue	The CellCompoundValue complex type contains the number formatted and the unformatted value of a cell .
CommandParameter	The CommandParameter complex type is an input used by some protocol server operations.
CommandResult	The CommandResult complex type is an operation response message used by most protocol server operations.
CommandResultExtendedInfo	The CommandResultExtendedInfo complex type provides extended information for CommandResult .
ExcelServerMessage	An alert (2) information returned by the protocol server.
PeriodicRefreshInfo	The PeriodicRefreshInfo complex type is used to return expired external data related information.

Complex Type	Description
PivotFilterItem	A PivotTable member that is part of a PivotTable manual filter hierarchy .
PivotFilterItemList	A list of PivotTable members.
PivotOperationOptions	<p>The PivotOperationOptions type is a container for common information used in the following operations related to PivotTables:</p> <ul style="list-style-type: none"> ▪ ApplyPivotFilter ▪ ApplyPivotSort ▪ ApplyPivotTop10Filter ▪ ConnectAndGetPivotFilterItemList ▪ GetPivotFilterItemList ▪ GetPivotMenu ▪ RemovePivotFilter ▪ TogglePivotDrill
RangeValuesA1	The RangeValuesA1 type is used to return the values of the cells specified by RangeName .
RequestLimits	Specifies a limit on a protocol server operation.
ServerHealthInformation	Used to return information about the health of the protocol server.
SheetRange	Specifies a range on a worksheet in a workbook.
SingleSignOnTicket	The SingleSignOnTicket type is used by the protocol client to send a single sign-on (SSO) ticket to the protocol server.
SlicerFontType	Font specification for one of the slicer visual components.
SlicerFormatElement	A slicer formatting element.
SlicerFormatElementList	An ordered list of SlicerFormatElement elements.
SlicerItem	Display specification for a slicer item .
SlicerItemList	An unordered list of SlicerItem

Complex Type	Description
	elements.
SlicerOptions	The SlicerOptions type is a container for common information related to slicers.
SlicerView	Specifies slicer attributes such as display properties specific to the slicer and attributes describing the slicer items.
TypeExporter	MUST NOT be used.
VisibleSheetRange	The VisibleSheetRange complex type is used to specify the Workbook ([MS-EXSPXML] section 2.1.1) to be returned in the response message.
WorkOnBehalf	MUST NOT be used.

2.2.4.1 ExcelServerMessage (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

An alert (2) information returned by the protocol server.

```
<xs:complexType name="ExcelServerMessage">
  <xs:sequence>
    <xs:element minOccurs="0" name="Appearance" type="tns:ExcelServerMessageAppearance"/>
    <xs:element minOccurs="0" name="Caption" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="Description" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="ExtendedDescription" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="HasOpenItemPermission" type="xs:boolean"/>
    <xs:element minOccurs="0" name="HealthInformation" nillable="true"
type="tns:ServerHealthInformation"/>
    <xs:element minOccurs="0" name="HelpDisplayText" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="HelpTopicId" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="Id" type="tns:ExcelServerMessageId"/>
    <xs:element minOccurs="0" name="Severity" type="tns:ExcelServerMessageSeverity"/>
    <xs:element minOccurs="0" name="Type" type="tns:ExcelServerMessageType"/>
    <xs:element minOccurs="0" name="WrongEcsServerId" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Appearance: The **control buttons** of the alert (2) as specified in [ExcelServerMessageAppearance](#). MUST be present.

Caption: A **caption** for the alert (2). MUST be present. MUST be in the language **UI culture** of the session (2).

Description: A text description of the alert (2). MUST be present. MUST NOT be empty. MUST be in the language UI culture of the session (2).

ExtendedDescription: An extended description of the alert (2). MUST be present. MUST be in the language UI culture of the session (2).

HasOpenItemPermission: Specifies whether the user has **Open Item permission** to the **workbook file**. MUST be set to true if the user has Open Item permission, MUST be set to false otherwise. MUST be present.

HealthInformation: The health information of the protocol server as specified in [ServerHealthInformation](#). MUST be present.

HelpDisplayText: A description of the help topic. MUST be present. MUST be in the language UI culture of the session (2).

HelpTopicId: The **Help topic identifier**.

Id: The identifier of the alert (2) as specified in [ExcelServerMessageId](#). MUST be present.

Severity: The severity of the alert (2) as specified in [ExcelServerMessageSeverity](#). MUST be present.

Type: The type of the alert (2) as specified in [ExcelServerMessageType](#). MUST be present.

WrongEcsServerId: The instance identifier of a protocol server as specified in the **Instance Identifier** section of [Abstract Data Model](#).

2.2.4.2 ServerHealthInformation (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

Used to return information about the health of the protocol server.

```
<xs:complexType name="ServerHealthInformation">
  <xs:sequence>
    <xs:element minOccurs="0" name="HealthScore" type="xs:float"/>
    <xs:element minOccurs="0" name="StateFlags" type="tns:ServerStateFlags"/>
  </xs:sequence>
</xs:complexType>
```

HealthScore: An indication of the health of the protocol server. Smaller values indicate a healthier, more available system. Higher values indicate a less healthy system. The value MUST be greater than or equal to 0. MUST be present.

StateFlags: The state of the protocol server. MUST be present. MUST contain 0 or more values from [ServerStateFlags](#).

2.2.4.3 ArrayOfAnyType

The **ArrayOfAnyType** type is an array of **anyType** elements.

```
<xs:complexType name="ArrayOfAnyType">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="anyType" nillable="true"/>
  </xs:sequence>
</xs:complexType>
```

anyType: An **anyType** value.

2.2.4.4 ArrayOfAutoFilterCriteria

The **ArrayOfAutoFilterCriteria** type is an array of [AutoFilterCriteria](#) elements.

```
<xs:complexType name="ArrayOfAutoFilterCriteria">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="AutoFilterCriteria" nillable="true"
      type="tns:AutoFilterCriteria"/>
  </xs:sequence>
</xs:complexType>
```

AutoFilterCriteria: An AutoFilter criteria as specified in AutoFilterCriteria.

2.2.4.5 ArrayOfAutoFilterDateNodeInfo

The **ArrayOfAutoFilterDateNodeInfo** complex type is an array of [AutoFilterDateNodeInfo](#) elements.

```
<xs:complexType name="ArrayOfAutoFilterDateNodeInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="AutoFilterDateNodeInfo"
      nillable="true" type="tns:AutoFilterDateNodeInfo"/>
  </xs:sequence>
</xs:complexType>
```

AutoFilterDateNodeInfo: An AutoFilter filter date values as specified in AutoFilterDateNodeInfo.

2.2.4.6 ArrayOfExcelServerMessage

The **ArrayOfExcelServerMessage** type is an array of [ExcelServerMessage](#) elements.

```
<xs:complexType name="ArrayOfExcelServerMessage">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="ExcelServerMessage" nillable="true"
      type="tns:ExcelServerMessage"/>
  </xs:sequence>
</xs:complexType>
```

ExcelServerMessage: An alert (2) as specified in ExcelServerMessage.

2.2.4.7 ArrayOfInt

The **ArrayOfInt** type is an array of integer elements.

```
<xs:complexType name="ArrayOfInt">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="int" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

int: An integer value.

2.2.4.8 ArrayOfPivotFilterItem

The **ArrayOfPivotFilterItem** type is an array of [PivotFilterItem](#) elements.

```
<xs:complexType name="ArrayOfPivotFilterItem">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="PivotFilterItem" nillable="true"
type="tns:PivotFilterItem"/>
  </xs:sequence>
</xs:complexType>
```

PivotFilterItem: A **PivotFilterItem** element as specified in [PivotFilterItem](#).

2.2.4.9 ArrayOfPresenceUserInfo

The **ArrayOfPresenceUserInfo** type is an array of [PresenceUserInfo](#) elements.

```
<xs:complexType name="ArrayOfPresenceUserInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="PresenceUserInfo" nillable="true"
type="tns:PresenceUserInfo"/>
  </xs:sequence>
</xs:complexType>
```

PresenceUserInfo: A **PresenceUserInfo** element as specified in [PresenceUserInfo](#).

2.2.4.10 ArrayOfRangeValuesA1

The **ArrayOfRangeValuesA1** type is an array of [RangeValuesA1](#) elements.

```
<xs:complexType name="ArrayOfRangeValuesA1">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="RangeValuesA1" nillable="true"
type="tns:RangeValuesA1"/>
  </xs:sequence>
</xs:complexType>
```

RangeValuesA1: A **RangeValuesA1** element as specified in [RangeValuesA1](#).

2.2.4.11 ArrayOfSlicerFormatElement

An array of [SlicerFormatElement](#) elements. The position of the [SlicerFormatElement](#) element in the array indicates which slicer visual component the [SlicerFormatElement](#) element is applied to. The array MUST have 10 elements. The following table lists the index in the array and the corresponding slicer visual component that the [SlicerFormatElement](#) element at that index is applied to:

Index	Slicer Visual Component
0	Equivalent to the meaning of TseType TSEWHOLETABLE specified in [MS-XLSB] section 2.5.154
1	Equivalent to the meaning of TseType TSEHEADERROW specified in [MS-XLSB] section 2.5.154
2	Equivalent to the meaning of TseType TSESLICERITEMSELECTED specified in [MS-XLSB]

Index	Slicer Visual Component
	section 2.5.154
3	Equivalent to the meaning of TseType TSESLICERITEMUNSELECTED specified in [MS-XLSB] section 2.5.154
4	Equivalent to the meaning of TseType TSESLICERITEMNODATA specified in [MS-XLSB] section 2.5.154
5	Equivalent to the meaning of TseType TSESLICERITEMNODATASELECTED specified in [MS-XLSB] section 2.5.154
6	Equivalent to the meaning of TseType TSESLICERITEMSELECTEDHOVER specified in [MS-XLSB] section 2.5.154
7	Equivalent to the meaning of TseType TSESLICERITEMUNSELECTEDHOVER specified in [MS-XLSB] section 2.5.154
8	Equivalent to the meaning of TseType TSESLICERITEMNODATAHOVER specified in [MS-XLSB] section 2.5.154
9	Equivalent to the meaning of TseType TSESLICERITEMNODATASELECTEDHOVER specified in [MS-XLSB] section 2.5.154

```
<xs:complexType name="ArrayOfSlicerFormatElement">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="SlicerFormatElement"
      nillable="true" type="tns:SlicerFormatElement"/>
  </xs:sequence>
</xs:complexType>
```

SlicerFormatElement: A **SlicerFormatElement** element as specified in SlicerFormatElement.

2.2.4.12 ArrayOfSlicerItem

An array of [SlicerItem](#) elements.

```
<xs:complexType name="ArrayOfSlicerItem">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="SlicerItem" nillable="true"
      type="tns:SlicerItem"/>
  </xs:sequence>
</xs:complexType>
```

SlicerItem: A **SlicerItem** element as specified in SlicerItem.

2.2.4.13 ArrayOfString

The **ArrayOfString** complex type is an array of string elements.

```
<xs:complexType name="ArrayOfString">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
      type="xs:string"/>
  </xs:sequence>
```

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

string: A string value.

2.2.4.14 AutoFilterCriteria

Used to instruct the protocol server on how to apply a filter on an AutoFilter in the workbook. This complex type is used as part of the [AutoFilterOptions](#) complex type through the [ArrayOfAutoFilterCriteria](#) complex type.

```
<xs:complexType name="AutoFilterCriteria">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:AutoFilterOperationType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Relation"
type="tns:AutoFilterRelationOperator"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Value" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Type: The type of operation as specified in [AutoFilterOperationType](#). Used when comparing the **Value** element as specified in [AutoFilterOptions](#).

Relation: Specifies how to combine an instance of this filter with one appearing after it in a [ArrayOfAutoFilterCriteria](#) complex type:

- When this complex type is the last element inside an [ArrayOfAutoFilterCriteria](#) complex type, it MUST contain the Nil value specified in [AutoFilterRelationOperator](#).
- When this complex type is not the last element inside an [ArrayOfAutoFilterCriteria](#) complex type, it MUST contain either the "And" or "Or" values specified in [AutoFilterRelationOperation](#).

Value: The string that will be used to filter a worksheet or a table:

- MUST be present.
- MUST NOT be longer than 32768 characters.

2.2.4.15 AutoFilterDateNodeInfo

Specifies how AutoFilter filter date values are filtered by the protocol server.

```
<xs:complexType name="AutoFilterDateNodeInfo">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="NodeType"
type="tns:AutoFilterDateNodeType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Year" type="xs:short"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Month" type="xs:short"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Day" type="xs:short"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Hour" type="xs:short"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Minute" type="xs:short"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Second" type="xs:short"/>
  </xs:sequence>
</xs:complexType>
```

NodeType: The type of the node. Specifies the element that is included in the filter as specified in [AutoFilterDateNodeType](#).

Year: The year part of a date. MUST be greater than or equal to 1900 and less than or equal to 9999.

Month: The month part of a date. MUST be greater than or equal to 0 and less than or equal to 12. The protocol server MUST ignore the value 0.

Day: The day part of a date. MUST be greater than or equal to 0 and less than or equal to 31, and SHOULD <1> be a valid day of the month for the year specified in the **Year** element and month specified in the **Month** element. The protocol server SHOULD <2> ignore the value 0.

Hour: The hour part of a date. MUST be greater than or equal to 0 and less than or equal to 23.

Minute: The minute part of a date. MUST be greater than or equal to 0 and less than or equal to 59.

Second: The second part of a date. MUST be greater than or equal to 0 and less than or equal to 59.

2.2.4.16 AutoFilterOptions

Used to specify the filter applied to an AutoFilter column (2).

```
<xs:complexType name="AutoFilterOptions">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="AutoFilterType" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Criteria"
type="tns:ArrayOfAutoFilterCriteria"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CriteriaType"
type="tns:AutoFilterCriteriaType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Id" type="xs:unsignedInt"/>
    <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Column" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="NamedObjectView" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

AutoFilterType: The object on which the filter operates. MUST be either "Sheet" or "Table".

Criteria: The list of [AutoFilterCriteria](#) complex types that specify how values are filtered.

- If the **CriteriaType** element contains a value different from Nil then this element MUST NOT be present.
- If **Criteria** contains two **AutoFilterCriteria** elements, they MUST be one of the following:
 - The **Type** and **Relation** elements of the first **AutoFilterCriteria** MUST be **GTEQ** and **And** respectively. The **Type** and **Relation** elements of the second **AutoFilterCriteria** MUST be **LTEQ** and Nil respectively.
 - The **Type** and **Relation** elements of the first **AutoFilterCriteria** MUST be **LT** and **Or** respectively. The **Type** and **Relation** elements of the second **AutoFilterCriteria** MUST be **GT** and Nil respectively.

CriteriaType: The type of filter to apply as specified in [AutoFilterCriteriaType](#).

Id: The identifier of the table that has the filter applied to it.

- If the **AutoFilterType** element contains the string "Sheet" then this element MUST be ignored.
- If the **AutoFilterType** element contains the string "Table" then this element MUST contain a value that was previously returned from the protocol server in the **ID** attribute of **CT_autofilter** complex type as specified in [\[MS-EXSPXML\]](#) section 2.2.19.

SheetName: The name of the worksheet or **named object** containing the AutoFilter.

- MUST be present.
- MUST NOT be empty.
- If the **NamedObjectView** element is set to true, then:
 - The value in the **SheetName** element is a named object on the workbook.
 - The length of **SheetName** MUST NOT be longer than 287 characters.
- If the **NamedObjectView** element is set to false, then:
 - The value in the **SheetName** element is a worksheet on the workbook.
 - The length of **SheetName** MUST NOT be longer than 31 characters.

Column: Specifies the one-based index of the column of the AutoFilter.

- If the **AutoFilterType** element contains the value "Table" then this value MUST be greater than or equal to 1 and less than or equal to the number of column in the Table containing the AutoFilter.
- If the **AutoFilterType** element contains the value "Sheet" then this value MUST be greater than or equal to 1 and less than or equal to the last numeric index of the column on the worksheet that contains an AutoFilter.

NamedObjectView: Specifies whether this filter is to be applied to an AutoFilter which is located on a worksheet or on a named object. MUST be set to true if AutoFilter is located on a named object, MUST be false otherwise.

2.2.4.17 BorderFormat

Specifies the formatting to apply to the border of the slicer visual components.

```
<xs:complexType name="BorderFormat">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Thickness" type="tns:ArrayOfInt"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Color" type="tns:ArrayOfInt"/>
    <xs:element minOccurs="0" maxOccurs="1" name="LineStyle" type="tns:ArrayOfInt"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Position" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

Thickness: An array of **border thickness** in **pixels**. MUST be present. The array MUST contain 4 elements. The first element is the Top **border**, the second element is Bottom border, the third element is the Left border, and the fourth element is the Right border. The value of each element in the array MUST be greater than or equal to 0, and MUST be less than or equal to 3.

Color: An array of border colors. MUST be present. The array MUST contain 4 elements. The first element is the Top border, the second element is Bottom border, the third element is the Left border, and the fourth element is the Right border. The value of each element in the array MUST be a **LongRGBA** as specified in [\[MS-XLSB\]](#) section 2.5.92.

LineStyle: An array of border line styles. MUST be present. The array MUST contain 4 elements. The first element is the Top border, the second element is Bottom border, the third element is the Left border, and the fourth element is the Right border. The value of each element in the array MUST be one of the following values:

Value	Name	Meaning
0	None	No border.
1	Continuous	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle medium enumeration value.
2	Dash	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle dash enumeration value.
3	Dot	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle dot enumeration value.
4	DashDot	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle dashDot enumeration value.
5	DashDotDot	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle dashDotDot enumeration value.
6	SlantDashDot	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle slantDashDot enumeration value.
7	Double	Equivalent to the [ISO/IEC-29500-1] ST_BorderStyle double enumeration value.

Position: Edge or set of edges of the slicer visual component to which the border information applies. If none of the edges of the slicer visual component have a border then **Position** MUST be 0. Otherwise the value for **Position** MUST be the sum of one or more of the values listed in the following table:

Value	Meaning
1	Bottom border
2	Top border
4	Left border
8	Right border

2.2.4.18 CellCompoundValue

The **CellCompoundValue** complex type contains the number formatted and the unformatted value of a cell.

The **CellCompoundValue** type MUST only be used in the elements in the **rangeRequests** element of [GetRangeValuesA1Response](#).

```
<xs:complexType name="CellCompoundValue">
```

```

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

```

Value: The unformatted value of a cell. If present MUST be one of the following types: **boolean**, **double**, **string** or **CellError** as specified in [CellError](#).

Formatted: The number formatted value of the cell. MUST be present.

2.2.4.19 CollaborationParameter

The **CollaborationParameter** complex type encapsulates input about **end user presence**.

```

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

```

CollaborationState: A **CollaborationState** as specified in [CollaborationState](#). MUST be present.

2.2.4.20 CollaborationResult

The **CollaborationResult** complex type encapsulates output about end user presence.

```

<xs:complexType name="CollaborationResult">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="CollaborationState"
type="tns:CollaborationState"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Users" type="tns:ArrayOfPresenceUserInfo"/>
  </xs:sequence>
</xs:complexType>

```

CollaborationState: A **CollaborationState** as specified in [CollaborationState](#). MUST be present.

Users: An **ArrayOfPresenceUserInfo** as specified in [ArrayOfPresenceUserInfo](#).

2.2.4.21 CollaborationState

The **CollaborationState** complex type encapsulates information about the state of the end user presence information.

```

<xs:complexType name="CollaborationState">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="UserListVersion" type="xs:int"/>
  </xs:sequence>
</xs:complexType>

```

UserListVersion: The version number of the user list. MUST be 0 or greater.

2.2.4.22 CommandParameter

The **CommandParameter** complex type is an input used by some protocol server operations.

The following applies to the **CommandParameter** complex type, unless extended or overridden by an operation specification:

```
<xs:complexType name="CommandParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="WorkbookId" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="StateId" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="VisibleSheetRangeRequest"
type="tns:VisibleSheetRange"/>
    <xs:element minOccurs="0" maxOccurs="1" name="WorkOnBehalfRequest"
type="tns:WorkOnBehalf"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Confirmation"
type="tns:ExcelServerMessageId"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ConfirmationChoice" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ProtocolClientId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="UserFriendlyDisplayName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Zone" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PreviousOwnerId" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="RequestSiteId"
xmlns:q1="http://microsoft.com/wsdl/types/" type="q1:guid"/>
    <xs:element minOccurs="0" maxOccurs="1" name="RequestId" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CompleteResponseTimeout" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Flags" type="tns:CommandParameterFlags"/>
    <xs:element minOccurs="0" maxOccurs="1" name="RequestLimits" type="tns:RequestLimits"/>
    <xs:element minOccurs="0" maxOccurs="1" name="CollaborationParameter"
type="tns:CollaborationParameter"/>
  </xs:sequence>
</xs:complexType>
```

WorkbookId: The session identifier (2) that is returned in the **workbookId** as specified in [OpenWorkbookResponse](#). See [session identifier](#) for specification.

- If present then MUST NOT be empty.
- For all operations other than [OpenWorkbook](#) operation, MUST have a value which has been obtained from a previous call to [OpenWorkbook](#) operation.
- For the [OpenWorkbook](#) operation:
 - If a session identifier has already been returned by the protocol server for a previous [OpenWorkbook](#) operation, **WorkbookId** MUST have that value.
 - If this operation is used to create a new session (2) on the protocol server then MUST NOT be present.

StateId: The state identifier as specified in Section [3.1.1](#).

- MUST be incremented by the protocol server on every operation that changes the state of the session.

VisibleSheetRangeRequest: The requested range that will be returned by the protocol server in **SpreadsheetData**, as specified in [CommandResult](#). See [VisibleSheetRange](#) for specifications.

WorkOnBehalfRequest: MUST NOT be present.

Confirmation: The external data refresh **confirmation**. MUST be either **ConfirmDataRefresh** or **Blank**.

- MUST be **ConfirmDataRefresh**, with **ConfirmationChoice** set to true to allow external data refresh for the lifetime of the session, or with **ConfirmationChoice** set to false to prevent external data refresh for the current operation.
- Otherwise, the protocol server MUST ignore **ConfirmationChoice**.

ConfirmationChoice: The external data refresh confirmation choice. See **Confirmation**.

ProtocolClientId: The protocol server MUST ignore the value unless specified otherwise. The protocol client MAY pass any value.

UserFriendlyDisplayName: The **user display name**. MUST be present.

Zone: The **URL zone** of the **site collection**. MUST be present. MUST be set to either one of the following values: "Internet", "Intranet", "Extranet", "Default", "Custom".

PreviousOwnerId: The instance identifier of a protocol server as specified in the **Instance Identifier** section of Abstract Data Model.

- If the current request is not **OpenWorkbook**, then MUST NOT be present.
- Otherwise, if the last response from a protocol server has returned a soap fault, as specified in [Faults](#), with the **WrongEcs** value in the **Id** element of the returned **ExcelServerMessage**, then the protocol client MUST send a **PreviousOwnerId** with the value of the **WrongEcsServerId** element from that **ExcelServerMessage**.

RequestSiteId: The **site identifier**. MUST be present.

RequestId: An identifier of an ongoing asynchronous request on the protocol server, as specified in the **Asynchronous Operations** section of Abstract Data Model.

- If the last response on the same session from the protocol server has returned a **CommandResult** which contained a non-empty value for the **RequestId** element, then it MUST contain the same value.
- Otherwise, MUST NOT be present.

CompleteResponseTimeout: The estimated timeout, in milliseconds, after which the protocol server returns a response in cases where the operation has not yet finished, as specified in the **Asynchronous Operations** section of Abstract Data Model.

Flags: Control flags as specified in [CommandParameterFlags](#).

RequestLimits: Request limits as specified in [RequestLimits](#).

CollaborationParameter: End user presence information as specified in [CollaborationParameter](#).

- MUST NOT be present if the associated session (2) is not an edit session.
- The **UserListVersion** element of **CollaborationState** will contain the last non-empty **CollaborationState** value received in a response on the same session from the protocol server.

2.2.4.23 CommandResult

The **CommandResult** complex type is an operation response message used by most protocol server operations.

The following applies to the **CommandResult** complex type, unless extended or overridden by an operation specification:

```
<xs:complexType name="CommandResult">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="TransientEditSessionToken"
type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="StateId" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="SpreadsheetData" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ExtendedInfo"
type="tns:CommandResultExtendedInfo"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PeriodicRefreshInfo"
type="tns:PeriodicRefreshInfo"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HealthInformation"
type="tns:ServerHealthInformation"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SecondsBeforeNextPoll" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="EditSessionIsDirty" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="EditSessionHasMultipleCollaborationUsers"
type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="RequestId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="CollaborationResult"
type="tns:CollaborationResult"/>
  </xs:sequence>
</xs:complexType>
```

TransientEditSessionToken: A unique string associated with the current session (2).

- MUST NOT be present if the associated session (2) is not an edit session.
- MUST be present and non-empty if the associated session (2) is an edit session.

StateId: The state identifier as specified in Section [3.1.1](#). The protocol server MUST set **StateId** to the state identifier value for the current session.

SpreadsheetData: The range to be returned as the result of a **VisibleSheetRangeRequest**. See [VisibleSheetRange](#) for specifications.

- MUST NOT be present if the **Messages** element of [CommandResultExtendedInfo](#) contains at least one element. Otherwise:
 - MUST NOT be present if **VisibleSheetRangeRequest** was not present in [CommandParameter](#) in the request message of the same operation.
 - MUST be present if **VisibleSheetRangeRequest** was present in [CommandParameter](#) in the request message of the same operation.

ExtendedInfo: More information about the result of the operation, as specified in [CommandResultExtendedInfo](#).

PeriodicRefreshInfo: Information about connected data on the workbook that can expire, as specified in [PeriodicRefreshInfo](#).

- MUST NOT be present if the **Messages** element of **CommandResultExtendedInfo** contains at least one element.

HealthInformation: The health information of the protocol server, as specified in [ServerHealthInformation](#).

SecondsBeforeNextPoll: MUST be ignored by the protocol client.

EditSessionIsDirty: Specifies whether the associated session (2) has unsaved changes. MUST be present.

- MUST be false if the associated session (2) is not an edit session. Otherwise:
 - MUST be true if the associated session (2) has unsaved changes.
 - MUST be false if the associated session (2) does not have unsaved changes.

EditSessionHasMultipleCollaborationUsers: Specifies whether the associated session (2) has multiple participants. MUST be false if the session (2) is not an edit session.

RequestId: An identifier of an ongoing asynchronous request on the protocol server, as specified in the **Asynchronous Operations** section of Abstract Data Model.

- If the asynchronous request has not yet finished, **RequestId** MUST be present and MUST uniquely identify the request.
- Otherwise, MUST NOT be present.

CollaborationResult: End user presence information as specified in [CollaborationResult](#).

- MUST NOT be present if the associated session (2) is not an edit session.
- MUST be present and non-empty if the associated session (2) is an edit session.
- The **UserListVersion** element of **CollaborationState** will contain the version of the user list tracked by the protocol server.
- The **Users** element MUST be present and non-empty if the **UserListVersion** element of **CollaborationState** received in the current request's **CommandParameter** is lesser than the **UserListVersion** of the session (2). It will contain a list of **PresenceUserInfo** elements, representing the current participants of the session (2), as specified in [PresenceUserInfo](#).

2.2.4.24 CommandResultExtendedInfo

The **CommandResultExtendedInfo** complex type provides extended information for [CommandResult](#).

```
<xs:complexType name="CommandResultExtendedInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Messages"
type="tns:ArrayOfExcelServerMessage"/>
    <xs:element minOccurs="1" maxOccurs="1" name="WarnOnManualDataRefresh"
type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

Messages: Alert (2) information. See [ArrayOfExcelServerMessage](#) for specification.

- MUST be present.

WarnOnManualDataRefresh: Specifies whether external data refresh confirmation is needed.

- MUST be present.
- MUST be true if external data refresh has never been confirmed as specified in [CommandParameter](#).
- MUST be false if external data refresh has been confirmed or if it is not required as specified in [CommandParameter](#), or if **WorkbookId** is not present inside **parameter** in the **OpenWorkbook** element, as specified in the **OpenWorkbook** operation (Section [3.1.4.30](#)).

2.2.4.25 ExcelServerMessage

An alert (2) information returned by the protocol server.

```
<xs:complexType name="ExcelServerMessage">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="HasOpenItemPermission" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Id" type="tns:ExcelServerMessageId"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Severity"
type="tns:ExcelServerMessageSeverity"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:ExcelServerMessageType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Appearance"
type="tns:ExcelServerMessageAppearance"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Description" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ExtendedDescription" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Caption" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HelpTopicId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HelpDisplayText" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HealthInformation"
type="tns:ServerHealthInformation"/>
    <xs:element minOccurs="0" maxOccurs="1" name="WrongEcsServerId" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

HasOpenItemPermission: Specifies whether the user has Open Item permission to the workbook file.

Id: The identifier of the alert (2) as specified in [ExcelServerMessageId](#).

Severity: The severity of the alert (2) as specified in [ExcelServerMessageSeverity](#).

Type: The type of the alert (2) as specified in [ExcelServerMessageType](#).

Appearance: The control buttons or **Message Bar notification** flag associated with the alert (2) as specified in [ExcelServerMessageAppearance](#).

Description: A text description of the alert (2). MUST be present. MUST NOT be empty. MUST be in the language UI culture of the session (2).

ExtendedDescription: An extended description of the alert (2). MUST be present. MUST be in the language UI culture of the session (2).

Caption: A caption for the alert (2). MUST be present. MUST be in the language UI culture of the session (2).

HelpTopicId: The Help topic identifier.

HelpDisplayText: A description of the Help topic. MUST be present. MUST be in the language UI culture of the session (2).

HealthInformation: The health information of the protocol server as specified in [ServerHealthInformation](#).

WrongEcsServerId: The instance identifier of a protocol server as specified in the **Instance Identifier** section of [Abstract Data Model](#).

2.2.4.26 PeriodicRefreshInfo

The **PeriodicRefreshInfo** complex type is used to return expired external data related information.

```
<xs:complexType name="PeriodicRefreshInfo">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="ExpirationTime" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ConnectionNames" type="tns:ArrayOfString"/>
  </xs:sequence>
</xs:complexType>
```

ExpirationTime: The number of seconds left before the next external data expires. MUST be greater than or equal to 0.

ConnectionNames: The names of the **data connections (2)** that will expire after the number of seconds specified by **ExpirationTime**. MUST be present. MUST have one or more entries. Each entry MUST NOT have the xsi:nil attribute set to true and MUST NOT be empty.

2.2.4.27 PivotFilterItem

A PivotTable member that is part of a PivotTable manual filter hierarchy.

```
<xs:complexType name="PivotFilterItem">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:PivotFilterItemList">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="CalculatedMember" type="xs:boolean"/>
        <xs:element minOccurs="1" maxOccurs="1" name="LeafItem" type="xs:boolean"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Selected" type="xs:boolean"/>
        <xs:element minOccurs="1" maxOccurs="1" name="Id" type="xs:int"/>
        <xs:element minOccurs="0" maxOccurs="1" name="DisplayString" type="xs:string"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

CalculatedMember: Specifies whether the PivotTable member is a calculated PivotTable member. MUST be set to true if the PivotTable member is a calculated PivotTable member, and MUST be set to false otherwise.

LeafItem: Specifies whether the PivotTable member has no **child** objects in the PivotTable manual filter hierarchy. MUST be set to true if the PivotTable member has no child objects in the PivotTable manual filter hierarchy, and MUST be set to false otherwise.

Selected: Specifies whether the PivotTable member or all its **descendants** in the hierarchy are selected.

- If **LeafItem** is true, **MUST** be set to true if the PivotTable member is selected, and **MUST** be set to false otherwise.
- If **LeafItem** is false, **MUST** be set to true if all the descendants of the PivotTable member in the hierarchy are selected, and **MUST** be set to false otherwise.

Id: A unique identifier of the PivotTable member. **MUST** be greater than or equal to 0. **MUST** be unique across all the PivotTable members in the PivotTable manual filter hierarchy.

DisplayString: The caption of the PivotTable member. **MUST** be present. **MUST NOT** be empty.

2.2.4.28 PivotFilterItemList

A list of PivotTable members.

```
<xs:complexType name="PivotFilterItemList">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemListMaxExceeded" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsBlanksSelected" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HasBlanks" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PivotFilterItems"
      type="tns:ArrayOfPivotFilterItem"/>
  </xs:sequence>
</xs:complexType>
```

ItemListMaxExceeded: Specifies whether there were more PivotTable members available on the protocol server than the amount returned in **PivotFilterItems**, as specified in [ConnectAndGetPivotFilterItemList](#) and [GetPivotFilterItemList](#). **MUST** be set to true if there are more than 1000 **child PivotTable members**, and **MUST** be set to false otherwise.

IsBlanksSelected: Unused. **MUST** be set to false and **MUST** be ignored by the protocol client.

HasBlanks: Unused. **MUST** be set to false.

PivotFilterItems: A list of PivotTable members. **MUST** be present. **MUST** contain [PivotFilterItem](#) elements as specified in [ConnectAndGetPivotFilterItemList](#) and [GetPivotFilterItemList](#).

- **MUST** contain an empty list if **LeafItem** is true for the **PivotFilterItem** element.
- **MUST** contain an empty list if all the child PivotTable members are **selected** and **Selected** is true for the **PivotFilterItem** element or if all the child PivotTable members are not selected and **Selected** is false for the **PivotFilterItem** element.
- Otherwise, it **MUST** be present and contain the list of all the child PivotTable members if there are 1000 or less child PivotTable members, and **MUST** contain the first 1000 child PivotTable members if there are more than 1000 child PivotTable members.

2.2.4.29 PivotOperationOptions

The **PivotOperationOptions** type is a container for common information used in the following operations related to PivotTables:

- [ApplyPivotFilter](#)

- [ApplyPivotSort](#)
- [ApplyPivotTop10Filter](#)
- [ConnectAndGetPivotFilterItemList](#)
- [GetPivotFilterItemList](#)
- [GetPivotMenu](#)
- [RemovePivotFilter](#)
- [TogglePivotDrill](#)

Some of the elements of this type have a common usage with all these operations and are specified here. Other elements have specific usage information that is specified in the sections of this document addressing those operations.

```
<xs:complexType name="PivotOperationOptions">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SourceIndex" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="NamedObject" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FieldId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DataFieldId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="MemberPropertyId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FilterValue1" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FilterValue2" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FilterType" type="tns:PivotFilterType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ParentId" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Column" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Row" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Items" type="tns:ArrayOfInt"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SortByValue" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="DataFieldIndex" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

SheetName: The name of the worksheet or the name of the named object on which the operation is performed.

- MUST be present and MUST NOT be empty.
- If the **NamedObject** element is set to true then:
 - The **SheetName** element MUST refer to a named object in the workbook.
 - The length of **SheetName** MUST NOT be longer than 287 characters.
- If the **NamedObject** element is set to false then:
 - The **SheetName** element MUST refer to a worksheet in the workbook.
 - The length of **SheetName** MUST NOT be longer than 31 characters.

SourceIndex: The index of the connected data. MUST be the value of the **ExternalSourceIndex** attribute of the **CT_PivotTable** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.27) that is the

PivotTable on which the operation is performed, except when used in the GetPivotMenu operation that specifies a different behavior.

NamedObject: Specifies whether the operation is performed on a named object. MUST be set to true if the operation is performed on a named object. Otherwise, MUST be set to false.

FieldId: The identifier for the PivotTable field on which the operation is performed. MUST be present and MUST be equal to either the **IdString** element of one of the **PivotField** elements that have **IsHierarchy** set to false and that are nested inside the **PivotFields** element of the **pivotMenu** element that was retrieved from the protocol server in a previous call to GetPivotMenu on the same PivotTable area or to the **PageFieldID** attribute of the **CT_Cell** element as specified in [\[MS-EXSPXML\]](#) section 2.2.40 , except when used in the following operations which specify a different behavior:

- GetPivotMenu
- TogglePivotDrill

DataFieldId: The identifier of the **PivotTable data field**. MUST NOT be present, except when used in the following operations that specify a different behavior:

- ApplyPivotFilter
- [ApplyPivotTop10Filter](#)

MemberPropertyId: The identifier of the **member property**. MUST NOT be present, except when used in the ApplyPivotFilter operation that specifies a different behavior.

FilterValue1: The first **PivotTable filter parameter**. MUST NOT be present, except when used in the ApplyPivotFilter operation that specifies a different behavior.

FilterValue2: The second PivotTable filter parameter. MUST NOT be present, except when used in the ApplyPivotFilter operation that specifies a different behavior.

FilterType: The type of filter used in the operation. MUST have the value of **Invalid**, except when used in the following operations that specify a different behavior:

- ApplyPivotFilter
- ApplyPivotTop10Filter

ParentId: The identifier of the PivotTable member on which the operation is performed. MUST be ignored on receipt by the protocol server, except when used in the following operations that specify a different behavior:

- ConnectAndGetPivotFilterItemList
- GetPivotFilterItemList

Column: The column (2) of the PivotTable area location. MUST be the zero-based column number of a worksheet cell of the PivotTable that has the **HasDropDown** attribute of the **CT_Cell** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.40) set to true, except when used in the TogglePivotDrill operation that specifies a different behavior.

Row: The **row (2)** of the PivotTable area location. MUST be the zero-based row (2) number of a worksheet cell of the PivotTable that has the **HasDropDown** attribute of the **CT_Cell** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.40) set to true, except when used in the TogglePivotDrill operation that specifies a different behavior.

Items: The list of PivotTable members applied in a PivotTable manual filter. MUST NOT be present, except used in the ApplyPivotFilter operation that specifies a different behavior.

SortByValue: Specified whether the operation is a sort by value operation. MUST be false except used in the ApplyPivotSort operation that specifies a different behavior.

DataFieldIndex: Specified the index of PivotTable data field. MUST be ignored on receipt except when used in the ApplyPivotSort operation that specifies a different behavior.

2.2.4.30 PresenceUserId

The **PresenceUserId** complex type contains identifying information about end user presence for a single participant in the session (2).

```
<xs:complexType name="PresenceUserId">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="UserName" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsApiUser" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

UserName: The user display name of the participant. MUST be present.

IsApiUser: MUST be true if the value of **ProtocolClientId** element in the **parameter** was "ms-soap" when **OpenWorkbook** was called against the protocol server for the specific participant.

2.2.4.31 PresenceUserInfo

The **PresenceUserInfo** complex type contains information about end user presence for a single participant in the session (2).

```
<xs:complexType name="PresenceUserInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="User" type="tns:PresenceUserId"/>
    <xs:element minOccurs="0" maxOccurs="1" name="UserColor" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="NumberOfTimesInSession" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

User: The **PresenceUserId** as specified in [PresenceUserId](#). MUST be present.

UserColor: MUST be present and equal to "#000000".

NumberOfTimesInSession: The number of times the user is participating in the session (2) at the same time.

2.2.4.32 RangeValuesA1

The **RangeValuesA1** type is used to transfer the values of the cells specified by **RangeName**.

```
<xs:complexType name="RangeValuesA1">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="RangeName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfAnyType"/>
  </xs:sequence>
</xs:complexType>
```

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

RangeName: The name of the range as specified in [RangeReference](#). MUST be present.

SheetName: The name of the **sheet (2)** where the cells are located. MUST be present. The length of the element MUST NOT be longer than 31 characters.

Values: The values of the sheet (2) cells. MUST be present.

- Each element inside the **Values** element MUST be of type **ArrayOfAnyType** and is a row (2) of sheet (2) cells on the protocol server. The number of rows (2) returned MUST be equal to the number of rows (2) requested in the **rangeName** element.
- Each element inside each of the **ArrayOfAnyType** type nested inside **Values** 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 **rangeName** element.

2.2.4.33 RequestLimits

Specifies a limit on a protocol server operation.

```
<xs:complexType name="RequestLimits">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="CellCount" nillable="true" type="xs:long"/>
  </xs:sequence>
</xs:complexType>
```

CellCount: The maximum number of cells allowed to be returned in the response message, as specified in [VisibleSheetRange](#).

2.2.4.34 ServerHealthInformation

Used to return information about the health of the protocol server.

```
<xs:complexType name="ServerHealthInformation">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="StateFlags" type="tns:ServerStateFlags"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HealthScore" type="xs:float"/>
  </xs:sequence>
</xs:complexType>
```

StateFlags: The state of the protocol server. MUST be present. MUST contain 0 or more values from [ServerStateFlags](#).

HealthScore: An indication of the health of the protocol server. Smaller values indicate a healthier, more available system. Higher values indicate a less healthy system. MUST be greater than or equal to 0.

2.2.4.35 SheetRange

Specifies a range on a worksheet in a workbook.

```

<xs:complexType name="SheetRange">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FirstRow" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="LastRow" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FirstColumn" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="LastColumn" type="xs:int"/>
  </xs:sequence>
</xs:complexType>

```

SheetName: The name of the worksheet. Length MUST NOT be longer than 31 characters.

FirstRow: The **zero-based index** of the first row (2) of the described range. MUST be greater than or equal to 0 and less than or equal to 1048575.

LastRow: The zero-based index of the last row (2) of the range.

- MUST be greater than or equal to **FirstRow**.
- MUST be less than or equal to 1048575.

FirstColumn: The zero-based index of the first column (2) of the range. MUST be greater than or equal to 0 and less than or equal to 16383.

LastColumn: The zero-based index of the last column (2) of the range.

- MUST be greater than or equal to **FirstColumn**.
- MUST be less than or equal to 16383.

2.2.4.36 SlicerFontType

Font specification for a slicer visual component.

```

<xs:complexType name="SlicerFontType">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Strikethrough" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Underline" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Italic" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Bold" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FontSize" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FontColor" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FontName" type="xs:string"/>
  </xs:sequence>
</xs:complexType>

```

Strikethrough: MUST be set to true if the characters are crossed out by horizontal line. Otherwise, MUST be set to false.

Underline: MUST be one of the following values:

Value	Meaning
0	Equivalent to the [ISO/IEC-29500-1] ST_UnderlineValues none enumeration value.
1	Equivalent to the [ISO/IEC-29500-1] ST_UnderlineValues single enumeration value.

Italic: **Font face decoration.**

Bold: **Font face weight.** This attribute MUST be set to true when the font face weight is greater than 600.

FontSize: Specifies the font size in **points**. MUST be greater than 0.

FontColor: **Font face color.** The value MUST be a **LongRGBA** as specified in [\[MS-XLSB\]](#) section 2.5.92.

FontName: Font name. MUST be present. MUST NOT be empty.

2.2.4.37 SlicerFormatElement

A slicer formatting specification.

```
<xs:complexType name="SlicerFormatElement">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="GradientStop1" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="GradientStop0" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="GradientType" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HasGradient" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="SlicerFontType" type="tns:SlicerFontType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="BorderFormat" type="tns:BorderFormat"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FillColor" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Ident" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HorizontalAlignment" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="VerticalAlignment" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

GradientStop1: Specifies the second **color stop** in the gradient. MUST be present if **HasGradient** is true. Value MUST be a **LongRGBA** as specified in [\[MS-XLSB\]](#) section 2.5.92. If **HasGradient** is false this value MUST be ignored.

GradientStop0: Specifies the first color stop in the gradient. MUST be present if **HasGradient** is true. Value MUST be a **LongRGBA** as specified in [\[MS-XLSB\]](#) section 2.5.92. If **HasGradient** is false this value MUST be ignored.

GradientType: Specifies the orientation of the gradient. MUST be one of the values specified in the following table:

Value	Meaning
0	Displays a horizontal gradient
1	Displays a vertical gradient

HasGradient: When set to true, specifies that a **gradient fill** is to be applied to the slicer visual component. Otherwise, specifies **fill color** is to be applied to the slicer visual component.

SlicerFontType: Font specification for the slicer visual components.

BorderFormat: Specifies the formatting to apply to the border of the slicer visual components.

FillColor: Specifies the fill color. If **HasGradient** is true this value MUST be ignored. Value MUST be a **LongRGBA** as specified in [\[MS-XLSB\]](#) section 2.5.92.

Ident: Specifies **horizontal indent** used for rendering slicer contents in points. MUST be greater than or equal to 0.

HorizontalAlignment: MUST be one of the values specified in the following table:

Value	Name	Meaning
0	Automatic	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment general enumeration value.
1	Center	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment center enumeration value.
2	Left	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment left enumeration value.
3	Right	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment right enumeration value.
4	Fill	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment fill enumeration value.
5	Justify	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment justify enumeration value.
6	CenterAcrossSelection	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment centerContinuous enumeration value.
7	Distributed	Equivalent to the [ISO/IEC-29500-1] ST_HorizontalAlignment distributed enumeration value.
8	JustifyDistributed	Combination of Justify and Distributed enumeration values.

VerticalAlignment: MUST be one of the values specified in the following table:

Value	Name	Meaning
0	Automatic	Equivalent to the [ISO/IEC-29500-1] ST_VerticalAlignment bottom enumeration value.
1	Top	Equivalent to the [ISO/IEC-29500-1] ST_VerticalAlignment top enumeration value.
2	Bottom	Equivalent to the [ISO/IEC-29500-1] ST_VerticalAlignment bottom enumeration value.
3	Center	Equivalent to the [ISO/IEC-29500-1] ST_VerticalAlignment center enumeration value.

2.2.4.38 SlicerFormatElementList

Contains an [ArrayOfSlicerFormatElement](#) element.

```
<xs:complexType name="SlicerFormatElementList">
  <xs:sequence>
```

```

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

```

SlicerFormatElements: An array of [SlicerFormatElement](#) elements.

2.2.4.39 SlicerItem

Specifies the visual representation for a slicer item.

```

<xs:complexType name="SlicerItem">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="DisplayName" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="NoData" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Hidden" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>

```

DisplayName: Caption of the slicer item.

NoData: MUST be true if there is no data for the slicer item. MUST be false otherwise.

Hidden: If the slicer item is not selected then value MUST be true. MUST be false otherwise.

2.2.4.40 SlicerItemList

Contains an [ArrayOfSlicerItem](#) element.

```

<xs:complexType name="SlicerItemList">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="SlicerItems" type="tns:ArrayOfSlicerItem"/>
  </xs:sequence>
</xs:complexType>

```

SlicerItems: An array of [SlicerItem](#) elements.

2.2.4.41 SlicerOptions

A container for common information related to a slicer.

```

<xs:complexType name="SlicerOptions">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerCacheId" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerViewId" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerExternalSourceIndex" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerItemsOffset" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerItemsCount" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerClearItems" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SlicerVersion" type="xs:int"/>
  </xs:sequence>
</xs:complexType>

```

SlicerCacheId: An identifier that the protocol server uses in combination with **SlicerViewId** to identify a slicer. MUST be equal to the value of the **SlicerCacheId** attribute of the **CT_Slicer** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.35).

SlicerViewId: An identifier that the protocol server uses in combination with **SlicerCacheId** to identify a slicer. MUST be equal to the value of the **SlicerViewId** attribute of the **CT_Slicer** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.35).

SlicerExternalSourceIndex: The index of the connected data. MUST be equal to the value of the **ExternalSourceIndex** attribute of the **CT_Slicer** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.35).

SlicerItemsOffset: An index to the slicer item to be retrieved. MUST be greater than or equal to -1. MUST be less than the total number of slicer items.

SlicerItemsCount: The number of slicer items to fetch. MUST be greater than or equal to -1. The sum of **SlicerItemsCount** and **SlicerItemsOffset** MUST be less than the total number of slicer items.

SlicerClearItems: MUST be true if previously selected items will be unselected. MUST be false otherwise.

SlicerVersion: Current version of the slicer on the protocol client. MUST be equal to the value of the **Version** attribute of the **CT_Slicer** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.35).

2.2.4.42 SlicerView

Specifies slicer attributes such as display properties specific to the slicer and attributes describing the slicer items.

```
<xs:complexType name="SlicerView">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemsToScrollBar" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemsToHeader" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CellDistance" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CellMargin" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemCount" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Offset" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Margin" type="xs:unsignedInt"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemWidth" type="xs:unsignedInt"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemHeight" type="xs:unsignedInt"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CaptionHeight" type="xs:unsignedInt"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ColCount" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="RowCount" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Caption" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ScrollbarVisible" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CaptionVisible" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="OlapSourced" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

ItemsToScrollBar: Distance in pixels from the slicer items to the vertical scrollbar. MUST be equal to or greater than 0.

ItemsToHeader: Distance in pixels from the slicer items to the **slicer header**. MUST be equal to or greater than 0.

CellDistance: Distance in pixels between slicer items. MUST be equal to or greater than 0.

CellMargin: Horizontal margin for slicer items in pixels. MUST be equal to or greater than 0.

ItemCount: Number of known slicer items in the slicer. MUST be equal to or greater than 0.

Offset: Index of the first visible slicer item. MUST be equal to or greater than 0.

Margin: External margin for the slicer in pixels. MUST be equal to or greater than 0.

ItemWidth: Width in pixels of each slicer item. MUST be equal to or greater than 0.

ItemHeight: Height in pixels for each slicer item. MUST be equal to or greater than 0.

CaptionHeight: Height in pixels for the slicer header. MUST be equal to or greater than 0.

Width: Slicer width in pixels. MUST be equal to or greater than 0.

Height: Slicer height in pixels. MUST be equal to or greater than 0.

ColCount: Number of slicer item columns (2). If **ItemCount** is greater than 0, then **ColCount** MUST be greater than 0. **ColCount** MUST be ignored if **ItemCount** is 0.

RowCount: Number of **visible** slicer item rows (2). If **ItemCount** is greater than 0, then **RowCount** MUST be greater than 0. **RowCount** MUST be ignored if **ItemCount** is 0.

Name: The name of the slicer.

Caption: The caption of the slicer.

ScrollbarVisible: MUST be true if the scrollbar is not visible. MUST be false otherwise.

CaptionVisible: MUST be true if the caption is not visible. MUST be false otherwise.

OlapSourced: MUST be true if the data source for the slicer is **Online Analytical Processing (OLAP)**. MUST be false otherwise.

2.2.4.43 TypeExporter

MUST NOT be used.

```
<xs:complexType name="TypeExporter">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="CellError" type="tns:CellError"/>
    <xs:element minOccurs="0" maxOccurs="1" name="CellCompoundValue"
type="tns:CellCompoundValue"/>
  </xs:sequence>
</xs:complexType>
```

CellError: MUST NOT be used.

CellCompoundValue: MUST NOT be used.

2.2.4.44 VisibleSheetRange

The **VisibleSheetRange** complex type is used to specify the **Workbook** ([\[MS-EXSPXML\]](#) section 2.1.1.1) to be returned in the response message.

- The **baseline range**, in the context of this type and the operation that uses it, is the raw range initially found on the workbook before it is modified to only include visible worksheet cells.
- If the **ObjectName** element is present and not empty, and if the associated session is not an edit session:
 - If the **ExcelRange** element is present and not empty:
 - The sheet (2) of the **baseline range** is determined in the following manner:
 - If a sheet (2) was specified by **ExcelRange**, that is the sheet (2) which will be used.
 - Otherwise, the protocol server will locate a **published item** by matching **ObjectName** to the name of the published item.
 - If a match is found, the sheet (2) which contains the matching published item MUST be used.
 - Otherwise, the protocol server MUST return an **ExcelServerMessage** as specified in section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **EcsInvalidNamedObject**.
 - The protocol server will locate a **published range** which exactly matches **ExcelRange** on the **baseline range**'s sheet.
 - If a match is found, the published range is the **baseline range**.
 - Otherwise, the protocol server MUST locate a published item on the **baseline range**'s sheet (2), which contains an **ExcelRange** element completely.
 - If a match was found, the published item is the **baseline range**.
 - Otherwise, the protocol server MUST return an **ExcelServerMessage** as specified in section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **EcsInvalidNamedObject**.
 - If **ExcelRange** is not present or is empty, the protocol server will locate **ObjectName** in all the published items that belong to the workbook by matching **ObjectName** to the name of the published item.
 - If a match was found, the **baseline range** MUST be the published item's range.
 - Otherwise, the protocol server MUST return an **ExcelServerMessage** as specified in the section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **EcsInvalidNamedObject**.
 - The protocol server MUST NOT use any range outside of the **baseline range** to retrieve data from.
 - If **ObjectName** is not present or is empty, and the workbook contains published **items**, and if the associated session is not an edit session:
 - If **ExcelRange** is present and not empty:

- The sheet (2) of the **baseline range** MUST be determined in the following manner:
 - If a sheet (2) was specified by **ExcelRange**, that is the sheet (2) which MUST be used.
 - Otherwise, the sheet (2) which contains the first published item MUST be used.
- The protocol server will locate a published range which exactly matches **ExcelRange** on the **baseline range**'s sheet (2).
 - If a match is found, the published range is the **baseline range**.
 - Otherwise, the protocol server will locate a published item on the **baseline range**'s sheet (2), which contains **ExcelRange** completely.
 - If a match was found, the published item is the **baseline range**.
 - Otherwise, the protocol server MUST return an **ExcelServerMessage** as specified in the section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **EcsInvalidNamedObject**.
- If **ExcelRange** is not present or is empty, the **baseline range** MUST be the range of the first published item.
- The protocol server MUST NOT use any range outside of the **baseline range** to retrieve data from.
- If **ObjectName** is not present or is empty and the workbook does not contain any published items, or if the associated session is an edit session:
 - If **SheetName** is not present or empty, the **baseline range** MUST be the default sheet. Otherwise, **SheetName** MUST be the sheet (2) of the **baseline range**.
 - If **FirstRow** is -1, the **default row** MUST be the first row (2) of the **baseline range**. Otherwise, **FirstRow** MUST be the first row (2) of the **baseline range**.
 - If **FirstColumn** is -1, the **default column** MUST be the first column of the **baseline range**. Otherwise, **FirstColumn** MUST be the first column of the **baseline range**.
 - First row (2) of **baseline range+VisibleRowsRequested** MUST be the last row (2) of the **baseline range**.
 - First column of **baseline range+VisibleColumnsRequested** MUST be the last column of the **baseline range**.
 - **FirstColumn** MUST be -1 if **FirstRow** is -1.
 - **FirstRow** MUST be -1 if **FirstColumn** is -1.
- The product of **VisibleRowsRequested** and **VisibleColumnsRequested** MUST be less than or equal to 1000000.
- The first row (2) of the retrieved range MUST be:
 - The first visible row (2) at or after first row (2) of **baseline range+VisibleFirstRowOffset**, if **VisibleFirstRowOffset** is greater than or equal to 0.
 - The first visible row (2) at or before first row (2) of **baseline range+VisibleFirstRowOffset**, if **VisibleFirstRowOffset** is less than 0.

- If **baseline range+VisibleFirstRowOffset** < 0, the protocol server MUST return an **ExcelServerMessage** as specified in the section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **SpecifiedRangeNotFound**.
- If there are less than **VisibleRowsRequested** visible rows (2) between that first visible row (2) and the last visible row (2) of the **baseline range**, the first row (2) will be the first visible row (2) such that there are **VisibleRowsRequested** rows (2) between it and the last visible row (2) of **baseline range**.
- Greater than or equal to 0, and less than or equal to 1048575
- The amount of visible rows (2) in the retrieved range MUST be equal to **VisibleRowsRequested**, unless there are not enough visible rows (2) in the **baseline range** to retrieve, in which case all the remaining visible rows (2) in the **baseline range** MUST be retrieved.
- The first column of the retrieved range MUST be:
 - The first visible column at or after first column of **baseline range+VisibleFirstColumnOffset**, if **VisibleFirstColumnOffset** is greater than or equal to 0.
 - The first visible column at or before first column of **baseline range+VisibleFirstColumnOffset**, if **VisibleFirstColumnOffset** is less than 0.
 - If **baseline range+VisibleFirstColumnOffset** < 0, the protocol server MUST return an **ExcelServerMessage** as specified in the section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **SpecifiedRangeNotFound**.
 - If there are less than **VisibleColumnsRequested** visible columns between that first visible column and the last visible column of the **baseline range**, the first column will be the first visible column such that there are **VisibleColumnsRequested** columns between it and the last visible column of **baseline range**.
 - Greater than or equal to 0 and less than or equal to 16383.
- The amount of visible columns in the retrieved range MUST be equal to **VisibleColumnsRequested** unless there are not enough visible columns in the **baseline range** to retrieve, in which case all the remaining visible columns in the **baseline range** MUST be retrieved.
- If the retrieved range is completely covered by a published chart, and either a) **ObjectName** is present and not empty, or b) **ObjectName** is not present or is empty, and the workbook contains published items, then the returned **Workbook** ([\[MS-EXSPXML\]](#) section 2.1.1) will contain the **CT_Images** element ([\[MS-EXSPXML\]](#) section 2.2.33) with a single **CT_Image** element ([\[MS-EXSPXML\]](#) section 2.2.32). The **type** attribute for the **CT_Image** element ([\[MS-EXSPXML\]](#) section 2.2.32) MUST be **chart**, as specified in [\[MS-EXSPXML\]](#) section 2.2.32.

```
<xs:complexType name="VisibleSheetRange">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ObjectName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ExcelRange" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FirstRow" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="VisibleRowsRequested"
type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FirstColumn" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

```

    <xs:element minOccurs="1" maxOccurs="1" name="VisibleColumnsRequested"
type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="VisibleFirstRowOffset"
type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="VisibleFirstColumnOffset"
type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="NoAutoAdjustToPublishedUsedRange"
type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="CalculateVisibleOffsetFromOrigin"
type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="NeedAllBorderValues"
type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ChartsOnly" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>

```

SheetName: The name of the sheet (2) to retrieve the range from. MUST NOT be longer than 31 characters.

ObjectName: The name of the published item to retrieve the range from. If the value is longer than 287 characters, then the protocol server MUST return an **ExcelServerMessage** as specified in section [2.2.4.25](#). The **Id** element of the **ExcelServerMessage** MUST be **EcsInvalidNamedObject**.

ExcelRange: A **RangeReference** to the range to retrieve. MUST follow the [RangeReference](#) specification, with the following exceptions:

- The protocol server MUST support the **R1C1 notation**.
- If the value is longer than 287 characters, then the protocol server MUST return an **ExcelServerMessage** as specified in section [2.2.4.25](#), with the value of the **Id** element of the **ExcelServerMessage** set to **EcsInvalidNamedObject**.

FirstRow: The zero-based index of the first row (2). MUST be greater than or equal to -1 and less than or equal to 1048575.

VisibleRowsRequested: The amount of visible rows (2) to retrieve in the range. MUST be greater than 0 and less than or equal to 1048575.

FirstColumn: The zero-based index of the first column. MUST be greater than or equal to -1 and less than or equal to 16383.

VisibleColumnsRequested: The amount of visible columns to retrieve in the range. MUST be greater than 0 and less than or equal to 16383.

VisibleFirstRowOffset: The visible row (2) offset from **FirstRow** of the range to retrieve. MUST be greater than or equal to -1048575 and less than or equal to 1048575.

VisibleFirstColumnOffset: The visible column offset from **FirstColumn** of the range to retrieve. MUST be greater than or equal to -16383 and less than or equal to 16383.

NoAutoAdjustToPublishedUsedRange: MUST be ignored by the protocol server.

CalculateVisibleOffsetFromOrigin: Specified whether the protocol server will return information about the offsets for the first visible column and visible row (2), from the first column and row (2) of the **baseline range**. If true, then the returned **Workbook** ([\[MS-EXSPXML\]](#) section 2.1.1) will contain the **CurrentFirstRowVisibleOffset** and **CurrentFirstColumnVisibleOffset** attributes in the **CT_Table** element ([\[MS-EXSPXML\]](#) section 2.2.34).

NeedAllBorderValues: Specifies whether the protocol server will return information about all of the borders. **MUST** be present.

- If true, the protocol server returns information about all borders.
- If false, the protocol server returns information about the Bottom and Right borders as specified in **ST_enmBorderPosition** enumeration ([\[MS-EXSPXML\]](#) section 2.3.20).

ChartsOnly: Specifies whether the protocol server will return information about only charts. **MUST** be present.

- If true, the protocol server returns only information pertaining to charts.
- If false, the protocol server returns information pertaining to charts and worksheet cells.

2.2.4.45 WorkOnBehalf

MUST NOT be used.

```
<xs:complexType name="WorkOnBehalf">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="UserName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="UserSid" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="UserToken" type="xs:base64Binary"/>
    <xs:element minOccurs="1" maxOccurs="1" name="UserTokenTtl" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

UserName: **MUST NOT** be used.

UserSid: **MUST NOT** be used.

UserToken: **MUST NOT** be used.

UserTokenTtl: **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
guid (from namespace http://microsoft.com/wsdl/types/)	Specifies a GUID value as specified in [RFC4122] .
ExcelServerMessageAppearance (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	Specifies the control buttons associated with an alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageId (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	The ExcelServerMessageId type is an enumeration of alerts (2) returned from the protocol server.

Simple Type	Description
ExcelServerMessageSeverity (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	Specifies the severity of the alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageType (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	Specifies type of the alert (2) that the protocol server returns to the protocol client.
ServerStateFlags (from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server)	Specifies the state of the protocol server.
AutoFilterCriteriaType	Specifies how data is to be filtered by the protocol server when using the AutoFilterOptions complex type.
CellError	The CellError type is an enumeration of a set of cell error values that a worksheet cell can contain.
CommandParameterFlags	Specifies various options to modify the behavior of operations.
AutoFilterDateNodeType	Specifies how AutoFilter dates data is filtered by the protocol server when using the AutoFilterDateNodeInfo .
ExcelServerMessageAppearance	Specifies a list of enumeration values corresponding to either control buttons or a Message Bar notification, which is associated with an alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageId	The ExcelServerMessageId type is an enumeration of values, each of which corresponds to a particular alert (2) that is passed between the protocol client and the protocol server.
ExcelServerMessageSeverity	Specifies the severity of the alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageType	Specifies the type of the alert (2) that the protocol server returns to the protocol client.
NamedObjectType	Specifies the type of a published item.

Simple Type	Description
AutoFilterOperationType	Used to instruct the protocol server which comparison method to use when filtering worksheets or tables.
PivotFilterType	The PivotFilterType is an enumeration of types of PivotTable filters that can be applied on a PivotTable field .
RangeReference	A string which is used by the protocol server to identify a range on a worksheet in a workbook, in operations specified by this protocol.
AutoFilterRelationOperator	Specifies the relationship between an AutoFilterCriteria element contained in an ArrayOfAutoFilterCriteria and the one that potentially follows it.
ServerStateFlags	An enumeration specifying the state of the protocol server.
SessionIdentifier	The SessionIdentifier string is used to uniquely identify a session (2) on the protocol server, and to contain information about the session (2).
WorkbookType	The WorkbookType simple type is an enumeration that is used to specify the form of the requested workbook.

2.2.5.1 guid (from namespace <http://microsoft.com/wsd/types/>)

Specifies a GUID value as specified in [RFC4122](#).

```
<xs:simpleType name="guid">
  <xs:restriction base="xs:string">
    <xs:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}"/>
  </xs:restriction>
</xs:simpleType>
```

2.2.5.2 ExcelServerMessageAppearance (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

Specifies the control buttons associated with an alert (2) that the protocol server returns to the protocol client. The list MUST contain either only the value **OK** or the both the values **Yes** and **No**.

```

<xs:simpleType name="ExcelServerMessageAppearance">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="OK"/>
        <xs:enumeration value="Cancel"/>
        <xs:enumeration value="Yes"/>
        <xs:enumeration value="No"/>
        <xs:enumeration value="Notification"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>

```

The following table specifies the allowable values for ExcelServerMessageAppearance:

Value	Meaning
None	MUST NOT be used.
OK	An OK control button.
Cancel	MUST NOT be used.
Yes	A Yes control button.
No	A No control button.
Notification	MUST NOT be used.

2.2.5.3 ExcelServerMessageId (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

The **ExcelServerMessageId** type is an enumeration of alerts (2) returned from the protocol server.

```

<xs:simpleType name="ExcelServerMessageId">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Blank"/>
    <xs:enumeration value="InternalError"/>
    <xs:enumeration value="NotMemberOfRole"/>
    <xs:enumeration value="EncryptionTooLow"/>
    <xs:enumeration value="ConfirmDataRefresh"/>
    <xs:enumeration value="ExternalDataRefreshFailed"/>
    <xs:enumeration value="ExternalDataRefreshFailedReal"/>
    <xs:enumeration value="ExternalDataRefreshFailedReadOrViewOnly"/>
    <xs:enumeration value="NoAccessToOdcReadOrViewOnly"/>
    <xs:enumeration value="ErrorConnectingToDataSourceReadOrViewOnly"/>
    <xs:enumeration value="InvalidUserNameOrPasswordReadOrViewOnly"/>
    <xs:enumeration value="InvalidUserNameOrPassword"/>
    <xs:enumeration value="ExternalDataNotAllowedOnTL"/>
    <xs:enumeration value="InvalidUriorLocalConnectionPath"/>
    <xs:enumeration value="DclNotTrusted"/>
    <xs:enumeration value="OdcFileDoesNotExist"/>
    <xs:enumeration value="ErrorAccessingSsoFromEcs"/>
    <xs:enumeration value="SsoError"/>
    <xs:enumeration value="ErrorConnectingToDataSource"/>
  </xs:restriction>
</xs:simpleType>

```

```

<xs:enumeration value="UnattendedAccountNotConfigured"/>
<xs:enumeration value="IncorrectAuthUsed"/>
<xs:enumeration value="ExternalDataRefreshFailed_Details"/>
<xs:enumeration value="PivotNoOverlapAllowed"/>
<xs:enumeration value="PivotOverlapList"/>
<xs:enumeration value="PivotCubeNotUnique"/>
<xs:enumeration value="NoDataItemsOlap"/>
<xs:enumeration value="OlapSchemaFail"/>
<xs:enumeration value="InvalidPivot"/>
<xs:enumeration value="OlapNoMoreDetail"/>
<xs:enumeration value="DrillActionInvalid"/>
<xs:enumeration value="DriverNotOlap"/>
<xs:enumeration value="CubeMissing"/>
<xs:enumeration value="SkipLine"/>
<xs:enumeration value="CDimMismatch"/>
<xs:enumeration value="DataSetAxisTooBig"/>
<xs:enumeration value="CubeIntegrityError"/>
<xs:enumeration value="PivotNotExpandedtoProtectCellContents"/>
<xs:enumeration value="PivotTruncatedSheetEdge"/>
<xs:enumeration value="DdlGrpNotSup"/>
<xs:enumeration value="PivotFormulasCollided"/>
<xs:enumeration value="NoRetItems"/>
<xs:enumeration value="OlapConnectVisualModeProvider"/>
<xs:enumeration value="PivotNoSourceData"/>
<xs:enumeration value="PivotFilteringError"/>
<xs:enumeration value="PivotTableIncorrectDateFormat"/>
<xs:enumeration value="PivotTableEndingLargerThanStarting"/>
<xs:enumeration value="PivotTableIncorrectNumberFormat"/>
<xs:enumeration value="PivotTableOutOfRange"/>
<xs:enumeration value="MergedCellOverlap"/>
<xs:enumeration value="PivotSourceNotAvailable"/>
<xs:enumeration value="UnexpectedPivotError"/>
<xs:enumeration value="EditModeCannotAcquireLockUnknownReason"/>
<xs:enumeration value="EditModeCannotAcquireLock"/>
<xs:enumeration value="EditModeCannotAcquireLockUnknownUser"/>
<xs:enumeration value="EditModeWorkbookCheckedOutRequired"/>
<xs:enumeration value="EditModeWorkbookCheckedOutToLocalDrafts"/>
<xs:enumeration value="SiteTooBusy"/>
<xs:enumeration value="SiteCollectionMemoryQuotaExceeded"/>
<xs:enumeration value="SessionMemoryQuotaExceeded"/>
<xs:enumeration value="SiteCollectionChartQuotaExceeded"/>
<xs:enumeration value="RequestLimitsExceeded"/>
<xs:enumeration value="SavingUnsupportedInViewMode"/>
<xs:enumeration value="SavingWorkbookNoWorkbookName"/>
<xs:enumeration value="FileSaveGeneric"/>
<xs:enumeration value="SavingWorkbookInvalidPermissions"/>
<xs:enumeration value="SavingWorkbookLockedOrCheckedOut"/>
<xs:enumeration value="SavingWorkbookNotCheckedOut"/>
<xs:enumeration value="SavingWorkbookAccessDenied"/>
<xs:enumeration value="SavingWorkbookInvalidFileType"/>
<xs:enumeration value="SavingWorkbookFileNameExists"/>
<xs:enumeration value="HostedSavingWorkbookFileNameExists"/>
<xs:enumeration value="HostedSavingWorkbookInvalidFileName"/>
<xs:enumeration value="SavingWorkbookNotTrustedLocation"/>
<xs:enumeration value="SavingWorkbookInvalidLocation"/>
<xs:enumeration value="SavingWorkbookInvalidFileName"/>
<xs:enumeration value="SavingWorkbookTrustedLocationSettingWarning"/>
<xs:enumeration value="SavingWorkbookAlmostTooLarge"/>
<xs:enumeration value="SavingWorkbookTooLarge"/>

```

```

<xs:enumeration value="NewWorkbookInvalidLocation"/>
<xs:enumeration value="FileOpenSecuritySettings"/>
<xs:enumeration value="FileOpenNotFound"/>
<xs:enumeration value="FileOpenAccessDenied"/>
<xs:enumeration value="FileCorrupt"/>
<xs:enumeration value="OpenWorkbookTooLarge"/>
<xs:enumeration value="OpenWorkbookLocationNotTrusted"/>
<xs:enumeration value="OpenWorkbookAccessDenied"/>
<xs:enumeration value="WorkbookNotSupported"/>
<xs:enumeration value="WorkbookNotSupportedViewRight"/>
<xs:enumeration value="UnsupportedFeatureViewWarning"/>
<xs:enumeration value="UnsupportedFeatureSaveCopyWarning"/>
<xs:enumeration value="ExternalWorkbookLinksDisabled"/>
<xs:enumeration value="WorkbookLockedRead"/>
<xs:enumeration value="EditModeCannotEditNonSharePointWorkbook"/>
<xs:enumeration value="EditModeAccessDenied"/>
<xs:enumeration value="GenericFileOpenError"/>
<xs:enumeration value="IRMedWorkbook"/>
<xs:enumeration value="ParameterInvalid"/>
<xs:enumeration value="ParameterLimitExceeded"/>
<xs:enumeration value="WorkbookInternalLimit"/>
<xs:enumeration value="OldFormatConversionFailed"/>
<xs:enumeration value="EditModeWorkbookExternalData"/>
<xs:enumeration value="FormulaEditingNotEnabled"/>
<xs:enumeration value="DimensionMismatch"/>
<xs:enumeration value="SetRangeFailure"/>
<xs:enumeration value="ObjectTypeNotSupported"/>
<xs:enumeration value="ParameterDoesNotExist"/>
<xs:enumeration value="FormulaParseFailed"/>
<xs:enumeration value="SetParameterFailure"/>
<xs:enumeration value="CannotEditPivotTable"/>
<xs:enumeration value="InsDelCellsNonblankCells"/>
<xs:enumeration value="InsDelCellsArrayFmla"/>
<xs:enumeration value="InsDelCellsPivotTable"/>
<xs:enumeration value="InsDelCellsTable"/>
<xs:enumeration value="InsDelCellsMergedCells"/>
<xs:enumeration value="InsDelCellsDatatable"/>
<xs:enumeration value="InsDelCellsRowsForWholeColumn"/>
<xs:enumeration value="InsDelCellsColumnsForWholeRow"/>
<xs:enumeration value="InvalidSheetName"/>
<xs:enumeration value="RangeParseError"/>
<xs:enumeration value="SpecifiedRangeNotFound"/>
<xs:enumeration value="RangeDefinitionError"/>
<xs:enumeration value="DiscontiguousRangeNotSupported"/>
<xs:enumeration value="RangeRequestAreaExceeded"/>
<xs:enumeration value="SheetRangeMismatch"/>
<xs:enumeration value="ImageGenFailed"/>
<xs:enumeration value="ApiInvalidArgument"/>
<xs:enumeration value="ApiInvalidCoordinate"/>
<xs:enumeration value="ConfirmationUnsupported"/>
<xs:enumeration value="ApiInvalidDimensionReturned"/>
<xs:enumeration value="ApiMissingSiteContext"/>
<xs:enumeration value="Ewr_IllegalPageSize"/>
<xs:enumeration value="Ewr_WorkbookNotSpecified"/>
<xs:enumeration value="Ewr_LoadProgress"/>
<xs:enumeration value="Ewr_FileCorrupt"/>
<xs:enumeration value="Ewr_WorkbookNotSupported"/>
<xs:enumeration value="Ewr_GenericFileOpenError"/>
<xs:enumeration value="Ewr_InvalidParameterGeneric"/>

```

```

<xs:enumeration value="Ewr_InvalidParameterMandatoryMissing"/>
<xs:enumeration value="Ewr_InvalidParameterUnexpectedFormat"/>
<xs:enumeration value="Ewr_InvalidParameterOutOfRange"/>
<xs:enumeration value="Ewr_InvalidParameterOperationNotAllowed"/>
<xs:enumeration value="Ewr_ParameterInvalid"/>
<xs:enumeration value="Ewr_ParameterLimitExceeded"/>
<xs:enumeration value="Ewr_ParameterDoesNotExist"/>
<xs:enumeration value="Ewr_SetParameterFailure"/>
<xs:enumeration value="Ewr_SetParameterFailureOnOpen"/>
<xs:enumeration value="Ewr_ParameterReadFromDocPropsError"/>
<xs:enumeration value="Ewr_FormulaEditingNotEnabled"/>
<xs:enumeration value="Ewr_InvalidVisibleItem"/>
<xs:enumeration value="Ewr_EditSaveAsOverCurrentWorkbook"/>
<xs:enumeration value="Ewr_RequestTimedOut"/>
<xs:enumeration value="Ewr_ServerCommunicationError"/>
<xs:enumeration value="Ewr_ServerAuthenticationError"/>
<xs:enumeration value="Ewr_Top10InvalidValue"/>
<xs:enumeration value="Ewr_Top10InvalidValue_Float"/>
<xs:enumeration value="Mewa_PageStateInitFailed"/>
<xs:enumeration value="Mewa_CriticalParameterMissing"/>
<xs:enumeration value="Mewa_GridViewRenderingFailed"/>
<xs:enumeration value="Mewa_FeatureNotActive"/>
<xs:enumeration value="OperationNotSupportedInViewOnly"/>
<xs:enumeration value="OperationOnInvalidState"/>
<xs:enumeration value="InvalidOrTimedOutSession"/>
<xs:enumeration value="InvalidOrTimedOutSessionPageRefresh"/>
<xs:enumeration value="ScratchPadChangesLost"/>
<xs:enumeration value="MaxSessionsPerUserExceeded"/>
<xs:enumeration value="OperationCanceled"/>
<xs:enumeration value="MaxRequestDurationExceeded"/>
<xs:enumeration value="NoOccurrencesFound"/>
<xs:enumeration value="EcsInvalidNamedObject"/>
<xs:enumeration value="NoPublishedItems"/>
<xs:enumeration value="RetryError"/>
<xs:enumeration value="StopOpenOnRefreshFailure"/>
<xs:enumeration value="ProductExpired"/>
<xs:enumeration value="SortActionInvalid"/>
<xs:enumeration value="SortActionNotSupportedWithPivot"/>
<xs:enumeration value="CircularReferencesFound"/>
<xs:enumeration value="SessionNotFound"/>
<xs:enumeration value="NewWorkbookSessionTimeout"/>
<xs:enumeration value="EditXLSFile"/>
<xs:enumeration value="UnsupportedFeatureEditWarning"/>
<xs:enumeration value="EditModeSessionExists"/>
<xs:enumeration value="NewerWorkbookExists"/>
<xs:enumeration value="ExternalDataOfficeLive"/>
<xs:enumeration value="LostAuthentication"/>
<xs:enumeration value="ListEntryNotFound_1"/>
<xs:enumeration value="ListEntryNotFound_2"/>
<xs:enumeration value="ListEntryAlreadyExists_1"/>
<xs:enumeration value="ListEntryAlreadyExists_2"/>
<xs:enumeration value="InvalidArgumentValue"/>
<xs:enumeration value="MissingArgumentName"/>
<xs:enumeration value="InvalidArgumentName"/>
<xs:enumeration value="ArgumentBadInRemove"/>
<xs:enumeration value="ManagementUIListEntryAlreadyExists"/>
<xs:enumeration value="ManagementUIListEntryNotFound"/>
<xs:enumeration value="ManagementUIInternalError"/>
<xs:enumeration value="UnsupportedUICulture"/>

```

```

<xs:enumeration value="UnsupportedDataCulture"/>
<xs:enumeration value="SpecifiedItemNotFound"/>
<xs:enumeration value="EcsSnapshotAccessDenied"/>
<xs:enumeration value="SaveFailed"/>
<xs:enumeration value="WrongEcs"/>
<xs:enumeration value="PasteDataLimitHit"/>
<xs:enumeration value="UndoStackEmpty"/>
<xs:enumeration value="RedoStackEmpty"/>
<xs:enumeration value="UndoRedoCollabFail"/>
<xs:enumeration value="HyperlinkLocationRequired"/>
<xs:enumeration value="CollabLocaleMismatch"/>
<xs:enumeration value="LocaleRestored"/>
<xs:enumeration value="InvalidEditSession"/>
<xs:enumeration value="InvalidEditSessionPageRefresh"/>
<xs:enumeration value="InvalidEditSessionId"/>
<xs:enumeration value="UnableToLoadEditSession"/>
<xs:enumeration value="SavingWorkbookFailed"/>
<xs:enumeration value="RefreshLockFailed"/>
<xs:enumeration value="InvalidChartName"/>
<xs:enumeration value="RetryOutOfSync"/>
<xs:enumeration value="OperationFailed"/>
<xs:enumeration value="OpenInExcelActiveXError"/>
<xs:enumeration value="OpenInExcelClientIntegrationDisabled"/>
<xs:enumeration value="ProcessingUserChangesFileDownloadIgnored"/>
<xs:enumeration value="PhoneticDataLossWarning"/>
<xs:enumeration value="Count"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for ExcelServerMessageId:

Value	Meaning
Blank	MUST NOT be used.
InternalServerError	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 (Hypertext Transfer Protocol over Secure Sockets Layer), and the protocol client has tried to connect with a non HTTPS (Hypertext Transfer Protocol over Secure Sockets Layer).
ConfirmDataRefresh	An 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.
ExternalDataRefreshFailedReadOrViewOnly	Connected data refresh failed.
NoAccessToOdcReadOrViewOnly	Connected data refresh failed.

Value	Meaning
ErrorConnectingToDataSourceReadOrViewOnly	Connected data refresh failed.
InvalidUserNameOrPasswordReadOrViewOnly	Connected data refresh failed.
InvalidUserNameOrPassword	Connected data refresh failed.
ExternalDataNotAllowedOnTL	Connected data refresh failed.
InvalidUriorLocalConnectionPath	Connected data refresh failed.
DclNotTrusted	Connected data refresh failed.
OdcFileDoesNotExist	Connected data refresh failed.
ErrorAccessingSsoFromEcs	Connected data refresh failed.
SsoError	Connected data refresh failed.
ErrorConnectingToDataSource	Connected data refresh failed.
UnattendedAccountNotConfigured	Connected data refresh failed.
IncorrectAuthUsed	Connected data refresh failed.
ExternalDataRefreshFailed_Details	Connected data refresh failed.
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 not valid.
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 .
DataSetAxisTooBig	The row (2) or column (2) area of the PivotTable is too large.

Value	Meaning
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.
PivotFilteringError	The PivotTable could not be filtered.
PivotTableIncorrectDateFormat	The date used to filter the PivotTable is not valid.
PivotTableEndingLargerThanStarting	The pair of starting and ending values used to filter the PivotTable is not valid.
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.

Value	Meaning
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.
SavingWorkbookLockedOrCheckedOut	An attempt to save a workbook failed because the file is 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.
HostedSavingWorkbookFileNameExists	MUST NOT be used.
HostedSavingWorkbookInvalidFileName	MUST NOT be used.
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 not valid.
SavingWorkbookInvalidFileName	An attempt to save a workbook failed because the specified file name is not valid.
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 not valid.
FileOpenSecuritySettings	Cannot open workbook because of security settings.

Value	Meaning
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.
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 document library.
ParameterInvalid	An attempt to open a workbook failed because the workbook contains one or more workbook parameters that are not valid.
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 the file size limitation.
OldFormatConversionFailed	MUST NOT be used.

Value	Meaning
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.
DimensionMismatch	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.
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 (2).
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 not valid.

Value	Meaning
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 (1) provided as the sheet (1) argument is not the same as the sheet (1) specified in the range argument.
ImageGenFailed	The protocol server failed to create an image.
ApiInvalidArgument	MUST NOT be used.
ApiInvalidCoordinate	MUST NOT be used.
ConfirmationUnsupported	MUST NOT be used.
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.

Value	Meaning
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.
Ewr_Top10InvalidValue	MUST NOT be used.
Ewr_Top10InvalidValue_Float	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 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 not valid or timed out.
InvalidOrTimedOutSessionPageRefresh	The operation failed because the session (2) is not valid 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	A named object was requested that is not valid.
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

Value	Meaning
	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 not valid.
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.
ExternalDataOfficeLive	MUST NOT be used.
LostAuthentication	MUST NOT be used.
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

Value	Meaning
	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.
UndoStackEmpty	MUST NOT be used.
RedoStackEmpty	MUST NOT be used.
UndoRedoCollabFail	MUST NOT be used.
HyperlinkLocationRequired	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 not valid.
InvalidEditSessionPageRefresh	The edit session is not valid.
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.
InvalidChartName	An invalid chart name was specified.
RetryOutOfSync	The PivotTable operation failed.
OperationFailed	A workbook operation failed.
OpenInExcelActiveXError	MUST NOT be used.
OpenInExcelClientIntegrationDisabled	MUST NOT be used.
ProcessingUserChangesFileDownloadIgnored	MUST NOT be used.
PhoneticDataLossWarning	MUST NOT be used.
Count	MUST NOT be used.

2.2.5.4 ExcelServerMessageSeverity (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

Specifies the severity of the alert (2) that the protocol server returns to the protocol client.

```
<xs:simpleType name="ExcelServerMessageSeverity">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Error"/>
    <xs:enumeration value="Warning"/>
    <xs:enumeration value="Information"/>
    <xs:enumeration value="Progress"/>
    <xs:enumeration value="GettingStarted"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageSeverity:

Value	Meaning
Error	The alert (2) is of type error.
Warning	The alert (2) is of type warning.
Information	The alert (2) is of type information.
Progress	MUST NOT be used.
GettingStarted	MUST NOT be used.

2.2.5.5 ExcelServerMessageType (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

Specifies type of the alert (2) that the protocol server returns to the protocol client.

```
<xs:simpleType name="ExcelServerMessageType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Alert"/>
    <xs:enumeration value="Status"/>
    <xs:enumeration value="Confirmation"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageType:

Value	Meaning
Alert	The alert (2) is of type alert.
Status	The alert (2) is of type status.
Confirmation	The alert (2) is of type confirmation.

2.2.5.6 ServerStateFlags (from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>)

Specifies the state of the protocol server.

```
<xs:simpleType name="ServerStateFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="Probation"/>
        <xs:enumeration value="ShuttingDown"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for ServerStateFlags:

Value	Meaning
None	MUST NOT be used.
Probation	MUST NOT be used.
ShuttingDown	The protocol server is shutting down.

2.2.5.7 AutoFilterCriteriaType

Specifies how data is to be filtered by the protocol server when using the [AutoFilterOptions](#) complex type.

Each enumeration value falls under one of three categories shown in the following table. The category that MUST be used is determined by the **CT_item** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.18).

Category	Meaning
Agnostic	Enumeration values falling under the Agnostic category can always be passed to the protocol server.
Numeric	Enumeration values falling under the Numeric category MUST be passed only for AutoFilters that have the Data attribute of the CT_item element (as specified in [MS-EXSPXML] section 2.2.18) either missing or containing the string "Number".
Calendar	Enumeration values falling under the Calendar category MUST be passed only for AutoFilters that have the Data attribute of the CT_item element (as specified in [MS-EXSPXML] section 2.2.18.) containing the string "Date".

```
<xs:simpleType name="AutoFilterCriteriaType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil"/>
    <xs:enumeration value="AboveAverage"/>
    <xs:enumeration value="BelowAverage"/>
    <xs:enumeration value="Tomorrow"/>
    <xs:enumeration value="Today"/>
    <xs:enumeration value="Yesterday"/>
  </xs:restriction>
</xs:simpleType>
```

```

<xs:enumeration value="NextWeek"/>
<xs:enumeration value="ThisWeek"/>
<xs:enumeration value="LastWeek"/>
<xs:enumeration value="NextMonth"/>
<xs:enumeration value="ThisMonth"/>
<xs:enumeration value="LastMonth"/>
<xs:enumeration value="NextQuarter"/>
<xs:enumeration value="ThisQuarter"/>
<xs:enumeration value="LastQuarter"/>
<xs:enumeration value="NextYear"/>
<xs:enumeration value="ThisYear"/>
<xs:enumeration value="LastYear"/>
<xs:enumeration value="YearToDate"/>
<xs:enumeration value="Q1"/>
<xs:enumeration value="Q2"/>
<xs:enumeration value="Q3"/>
<xs:enumeration value="Q4"/>
<xs:enumeration value="M1"/>
<xs:enumeration value="M2"/>
<xs:enumeration value="M3"/>
<xs:enumeration value="M4"/>
<xs:enumeration value="M5"/>
<xs:enumeration value="M6"/>
<xs:enumeration value="M7"/>
<xs:enumeration value="M8"/>
<xs:enumeration value="M9"/>
<xs:enumeration value="M10"/>
<xs:enumeration value="M11"/>
<xs:enumeration value="M12"/>
<xs:enumeration value="LastCount"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for AutoFilterCriteriaType:

Value	Meaning
Nil	MUST be used when the Criteria element of the AutoFilterOptions is present. Otherwise, MUST NOT be present. Category: Agnostic.
AboveAverage	Filters all numeric values that are greater than the average of the numeric values being filtered. Category: Numeric.
BelowAverage	Filters all numeric values that are less than the average of the numeric values being filtered. Category: Numeric.
Tomorrow	Filters all date values that are set to tomorrow's date. Category: Calendar.
Today	Filters all date values that are set to today's date. Category: Calendar.
Yesterday	Filters all date values that are set to yesterday's date. Category: Calendar.
NextWeek	Filters all date values that fall within next week. Category: Calendar.
ThisWeek	Filters all date values that fall within this week. Category: Calendar.
LastWeek	Filters all date values that fall within last week. Category: Calendar.

Value	Meaning
NextMonth	Filters all date values that fall within next month. Category: Calendar.
ThisMonth	Filters all date values that fall within this month. Category: Calendar.
LastMonth	Filters all date values that fall within last month. Category: Calendar.
NextQuarter	Filters all date values that fall within the next quarter. Category: Calendar.
ThisQuarter	Filters all date values that fall within this quarter. Category: Calendar.
LastQuarter	Filters all date values that fall within the last quarter. Category: Calendar.
NextYear	Filters all date values that fall within next year. Category: Calendar.
ThisYear	Filters all date values that fall within this year. Category: Calendar.
LastYear	Filters all date values that fall within the last year. Category: Calendar.
YearToDate	Filters all date values that occurred between the beginning of the year and up to and including the current date. Category: Calendar.
Q1	Filters all date values that fall within the first quarter of a year. Category: Calendar.
Q2	Filters all date values that fall the second quarter of a year. Category: Calendar.
Q3	Filters all date values that fall within the third quarter of a year. Category: Calendar.
Q4	Filters all date values that fall within the fourth quarter of a year. Category: Calendar.
M1	Filters all date values that fall within the first month of a year. Category: Calendar.
M2	Filters all date values that fall within the second month of a year. Category: Calendar.
M3	Filters all date values that fall within the third month of a year. Category: Calendar.
M4	Filters all date values that fall within the fourth month of a year. Category: Calendar.
M5	Filters all date values that fall within the fifth month of a year. Category: Calendar.
M6	Filters all date values that fall within the sixth month of a year. Category: Calendar.
M7	Filters all date values that fall within the seventh month of a year. Category: Calendar.
M8	Filters all date values that fall within the eighth month of a year. Category: Calendar.
M9	Filters all date values that fall within the ninth month of a year. Category: Calendar.
M10	Filters all date values that fall within the tenth month of a year. Category: Calendar.
M11	Filters all date values that fall within the eleventh month of a year. Category: Calendar.
M12	Filters all date values that fall within the twelfth month of a year. Category: Calendar.
LastCount	MUST NOT be used.

2.2.5.8 AutoFilterDateNodeType

Specifies how AutoFilter dates data is filtered by the protocol server when using the [AutoFilterDateNodeInfo](#).

```

<xs:simpleType name="AutoFilterDateNodeType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil"/>
    <xs:enumeration value="Year"/>
    <xs:enumeration value="Month"/>
    <xs:enumeration value="Day"/>
    <xs:enumeration value="Hour"/>
    <xs:enumeration value="Minute"/>
    <xs:enumeration value="Second"/>
    <xs:enumeration value="Max"/>
  </xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for AutoFilterDateNodeType:

Value	Meaning
Nil	Specifies that the value in AutoFilterDateNodeInfo is excluded from the filtered values of the AutoFilter.
Year	Specifies that the Year element value in AutoFilterDateNodeInfo is included in the filtered values of the AutoFilter.
Month	Specifies that the Month element value in AutoFilterDateNodeInfo is included in the filtered values of the AutoFilter.
Day	Specifies that the Day element value in AutoFilterDateNodeInfo is included in the filtered values of the AutoFilter.
Hour	Specifies that the Hour element value in AutoFilterDateNodeInfo is included in the filtered values of the AutoFilter.
Minute	Specifies that the Minute element value in AutoFilterDateNodeInfo is included in the filtered values of the AutoFilter.
Second	Specifies that the Second element value in AutoFilterDateNodeInfo is included in the filtered values of the AutoFilter.
Max	MUST NOT be used.

2.2.5.9 AutoFilterOperationType

Used to instruct the protocol server which comparison method to use when filtering worksheets or tables. All data that is being filtered is compared to the **Value** element in the [AutoFilterCriteria](#) complex type.

```

<xs:simpleType name="AutoFilterOperationType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="EQ"/>
    <xs:enumeration value="NEQ"/>
    <xs:enumeration value="GT"/>
    <xs:enumeration value="GTEQ"/>
    <xs:enumeration value="LT"/>
    <xs:enumeration value="LTEQ"/>
    <xs:enumeration value="LastCount"/>
  </xs:restriction>

```

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

The following table specifies the allowable values for `AutoFilterOperationType`:

Value	Meaning
EQ	Filter all data that is equal to the value.
NEQ	Filter all data that is not equal to the value.
GT	Filter all data that is greater than the value.
GTEQ	Filter all data that is either greater than or equal to the value.
LT	Filter all data that is less than the value.
LTEQ	Filter all data that is less than or equal to the value.
LastCount	MUST NOT be used.

2.2.5.10 AutoFilterRelationOperator

Specifies the relationship between an [AutoFilterCriteria](#) element contained in an [ArrayOfAutoFilterCriteria](#) and the one that potentially follows it.

```
<xs:simpleType name="AutoFilterRelationOperator">  
  <xs:restriction base="xs:string">  
    <xs:enumeration value="Nil"/>  
    <xs:enumeration value="And"/>  
    <xs:enumeration value="Or"/>  
    <xs:enumeration value="LastCount"/>  
  </xs:restriction>  
</xs:simpleType>
```

The following table specifies the allowable values for `AutoFilterRelationOperator`:

Value	Meaning
Nil	See the Relation element in the <code>AutoFilterCriteria</code> section.
And	See the Relation element in the <code>AutoFilterCriteria</code> section. The protocol server will satisfy the conditions specified both in the <code>AutoFilterCriteria</code> that contains this value and in the one coming after it in the <code>ArrayOfAutoFilterCriteria</code> .
Or	See the Relation element in the <code>AutoFilterCriteria</code> section. The protocol server will satisfy the conditions specified in the <code>AutoFilterCriteria</code> that contains this value or in the one coming after it in the <code>ArrayOfAutoFilterCriteria</code> .
LastCount	MUST NOT be used.

2.2.5.11 CellError

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

The **CellError** type MUST only be used in a **cellValues** element of [GetRangeValuesResponse](#) and in a **cellValues** element of [GetRangeValuesA1Response](#).

```
<xs:simpleType name="CellError">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Div0"/>
    <xs:enumeration value="NotApplicable"/>
    <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 CellError:

Value	Meaning
Div0	Worksheet cell contains a number that is divided by 0.
NotApplicable	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 intersection of two areas that do not intersect.
Num	Worksheet cell contains invalid numeric values in a formula.
Ref	Worksheet cell contains a reference (3) that is not valid.
Value	Worksheet cell contains a formula that includes worksheet cells that contain different data types.

2.2.5.12 CommandParameterFlags

Specifies various options to modify the behavior of operations.

```
<xs:simpleType name="CommandParameterFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="ForceOneTimeRecalc"/>
        <xs:enumeration value="SuppressOneTimeRecalc"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for CommandParameterFlags:

Value	Meaning
ForceOneTimeRecalc	If the current operation is a state changing operation the protocol server will calculate the workbook before returning the response.

Value	Meaning
SuppressOneTimeRecalc	The protocol server will not calculate the workbook before returning the response for the current operation.

2.2.5.13 ExcelServerMessageAppearance

Specifies a list of enumeration values corresponding to either control buttons or a Message Bar notification, which is associated with an alert (2) that the protocol server returns to the protocol client. The list **MUST** contain one of these possible lists of values:

- **OK**
- **Notification**
- Both **Yes** and **No**
- Both **Notification** and **OK**

```
<xs:simpleType name="ExcelServerMessageAppearance">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="OK"/>
        <xs:enumeration value="Cancel"/>
        <xs:enumeration value="Yes"/>
        <xs:enumeration value="No"/>
        <xs:enumeration value="Notification"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageAppearance:

Value	Meaning
None	MUST NOT be used.
OK	An OK control button.
Cancel	MUST NOT be used.
Yes	A Yes control button.
No	A No control button.
Notification	A Message Bar notification.

2.2.5.14 ExcelServerMessageId

The **ExcelServerMessageId** type is an enumeration of values, each of which corresponds to a particular alert (2) that is passed between the protocol client and the protocol server. For details, see [ExcelServerMessageId](#).

```

<xs:simpleType name="ExcelServerMessageId">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Blank"/>
    <xs:enumeration value="InternalError"/>
    <xs:enumeration value="NotMemberOfRole"/>
    <xs:enumeration value="EncryptionTooLow"/>
    <xs:enumeration value="ConfirmDataRefresh"/>
    <xs:enumeration value="ExternalDataRefreshFailed"/>
    <xs:enumeration value="ExternalDataRefreshFailedReal"/>
    <xs:enumeration value="ExternalDataRefreshFailedReadOrViewOnly"/>
    <xs:enumeration value="NoAccessToOdcReadOrViewOnly"/>
    <xs:enumeration value="ErrorConnectingToDataSourceReadOrViewOnly"/>
    <xs:enumeration value="InvalidUserNameOrPasswordReadOrViewOnly"/>
    <xs:enumeration value="InvalidUserNameOrPassword"/>
    <xs:enumeration value="ExternalDataNotAllowedOnTL"/>
    <xs:enumeration value="InvalidUriOrLocalConnectionPath"/>
    <xs:enumeration value="DclNotTrusted"/>
    <xs:enumeration value="OdcFileDoesNotExist"/>
    <xs:enumeration value="ErrorAccessingSsoFromEcs"/>
    <xs:enumeration value="SsoError"/>
    <xs:enumeration value="ErrorConnectingToDataSource"/>
    <xs:enumeration value="UnattendedAccountNotConfigured"/>
    <xs:enumeration value="IncorrectAuthUsed"/>
    <xs:enumeration value="ExternalDataRefreshFailed_Details"/>
    <xs:enumeration value="PivotNoOverlapAllowed"/>
    <xs:enumeration value="PivotOverlapList"/>
    <xs:enumeration value="PivotCubeNotUnique"/>
    <xs:enumeration value="NoDataItemsOlap"/>
    <xs:enumeration value="OlapSchemaFail"/>
    <xs:enumeration value="InvalidPivot"/>
    <xs:enumeration value="OlapNoMoreDetail"/>
    <xs:enumeration value="DrillActionInvalid"/>
    <xs:enumeration value="DriverNotOlap"/>
    <xs:enumeration value="CubeMissing"/>
    <xs:enumeration value="SkipLine"/>
    <xs:enumeration value="CDimMismatch"/>
    <xs:enumeration value="DataSetAxisTooBig"/>
    <xs:enumeration value="CubeIntegrityError"/>
    <xs:enumeration value="PivotNotExpandedtoProtectCellContents"/>
    <xs:enumeration value="PivotTruncatedSheetEdge"/>
    <xs:enumeration value="DdlGrpNotSup"/>
    <xs:enumeration value="PivotFormulasCollided"/>
    <xs:enumeration value="NoRetItems"/>
    <xs:enumeration value="OlapConnectVisualModeProvider"/>
    <xs:enumeration value="PivotNoSourceData"/>
    <xs:enumeration value="PivotFilteringError"/>
    <xs:enumeration value="PivotTableIncorrectDateFormat"/>
    <xs:enumeration value="PivotTableEndingLargerThanStarting"/>
    <xs:enumeration value="PivotTableIncorrectNumberFormat"/>
    <xs:enumeration value="PivotTableOutOfRange"/>
    <xs:enumeration value="MergedCellOverlap"/>
    <xs:enumeration value="PivotSourceNotAvailable"/>
    <xs:enumeration value="UnexpectedPivotError"/>
    <xs:enumeration value="EditModeCannotAcquireLockUnknownReason"/>
    <xs:enumeration value="EditModeCannotAcquireLock"/>
    <xs:enumeration value="EditModeCannotAcquireLockUnknownUser"/>
    <xs:enumeration value="EditModeWorkbookCheckedOutRequired"/>
    <xs:enumeration value="EditModeWorkbookCheckedOutToLocalDrafts"/>
    <xs:enumeration value="SiteTooBusy"/>
  </xs:restriction>
</xs:simpleType>

```

```

<xs:enumeration value="SiteCollectionMemoryQuotaExceeded"/>
<xs:enumeration value="SessionMemoryQuotaExceeded"/>
<xs:enumeration value="SiteCollectionChartQuotaExceeded"/>
<xs:enumeration value="RequestLimitsExceeded"/>
<xs:enumeration value="SavingUnsupportedInViewMode"/>
<xs:enumeration value="SavingWorkbookNoWorkbookName"/>
<xs:enumeration value="FileSaveGeneric"/>
<xs:enumeration value="SavingWorkbookInvalidPermissions"/>
<xs:enumeration value="SavingWorkbookLockedOrCheckedOut"/>
<xs:enumeration value="SavingWorkbookNotCheckedOut"/>
<xs:enumeration value="SavingWorkbookAccessDenied"/>
<xs:enumeration value="SavingWorkbookInvalidFileType"/>
<xs:enumeration value="SavingWorkbookFileNameExists"/>
<xs:enumeration value="HostedSavingWorkbookFileNameExists"/>
<xs:enumeration value="HostedSavingWorkbookInvalidFileName"/>
<xs:enumeration value="SavingWorkbookNotTrustedLocation"/>
<xs:enumeration value="SavingWorkbookInvalidLocation"/>
<xs:enumeration value="SavingWorkbookInvalidFileName"/>
<xs:enumeration value="SavingWorkbookTrustedLocationSettingWarning"/>
<xs:enumeration value="SavingWorkbookAlmostTooLarge"/>
<xs:enumeration value="SavingWorkbookTooLarge"/>
<xs:enumeration value="NewWorkbookInvalidLocation"/>
<xs:enumeration value="FileOpenSecuritySettings"/>
<xs:enumeration value="FileOpenNotFound"/>
<xs:enumeration value="FileOpenAccessDenied"/>
<xs:enumeration value="FileCorrupt"/>
<xs:enumeration value="OpenWorkbookTooLarge"/>
<xs:enumeration value="OpenWorkbookLocationNotTrusted"/>
<xs:enumeration value="OpenWorkbookAccessDenied"/>
<xs:enumeration value="WorkbookNotSupported"/>
<xs:enumeration value="WorkbookNotSupportedViewRight"/>
<xs:enumeration value="UnsupportedFeatureViewWarning"/>
<xs:enumeration value="UnsupportedFeatureSaveCopyWarning"/>
<xs:enumeration value="ExternalWorkbookLinksDisabled"/>
<xs:enumeration value="WorkbookLockedRead"/>
<xs:enumeration value="EditModeCannotEditNonSharePointWorkbook"/>
<xs:enumeration value="EditModeAccessDenied"/>
<xs:enumeration value="GenericFileOpenError"/>
<xs:enumeration value="IRMedWorkbook"/>
<xs:enumeration value="ParameterInvalid"/>
<xs:enumeration value="ParameterLimitExceeded"/>
<xs:enumeration value="WorkbookInternalLimit"/>
<xs:enumeration value="OldFormatConversionFailed"/>
<xs:enumeration value="EditModeWorkbookExternalData"/>
<xs:enumeration value="FormulaEditingNotEnabled"/>
<xs:enumeration value="DimensionMismatch"/>
<xs:enumeration value="SetRangeFailure"/>
<xs:enumeration value="ObjectTypeNotSupported"/>
<xs:enumeration value="ParameterDoesNotExist"/>
<xs:enumeration value="FormulaParseFailed"/>
<xs:enumeration value="SetParameterFailure"/>
<xs:enumeration value="CannotEditPivotTable"/>
<xs:enumeration value="InsDelCellsNonblankCells"/>
<xs:enumeration value="InsDelCellsArrayFmla"/>
<xs:enumeration value="InsDelCellsPivotTable"/>
<xs:enumeration value="InsDelCellsTable"/>
<xs:enumeration value="InsDelCellsMergedCells"/>
<xs:enumeration value="InsDelCellsDatatable"/>
<xs:enumeration value="InsDelCellsRowsForWholeColumn"/>

```

```

<xs:enumeration value="InsDelCellsColumnsForWholeRow"/>
<xs:enumeration value="InvalidSheetName"/>
<xs:enumeration value="RangeParseError"/>
<xs:enumeration value="SpecifiedRangeNotFound"/>
<xs:enumeration value="RangeDefinitionError"/>
<xs:enumeration value="DiscontiguousRangeNotSupported"/>
<xs:enumeration value="RangeRequestAreaExceeded"/>
<xs:enumeration value="SheetRangeMismatch"/>
<xs:enumeration value="ImageGenFailed"/>
<xs:enumeration value="ApiInvalidArgument"/>
<xs:enumeration value="ApiInvalidCoordinate"/>
<xs:enumeration value="ConfirmationUnsupported"/>
<xs:enumeration value="ApiInvalidDimensionReturned"/>
<xs:enumeration value="ApiMissingSiteContext"/>
<xs:enumeration value="Ewr_IllegalPageSize"/>
<xs:enumeration value="Ewr_WorkbookNotSpecified"/>
<xs:enumeration value="Ewr_LoadProgress"/>
<xs:enumeration value="Ewr_FileCorrupt"/>
<xs:enumeration value="Ewr_WorkbookNotSupported"/>
<xs:enumeration value="Ewr_GenericFileOpenError"/>
<xs:enumeration value="Ewr_InvalidParameterGeneric"/>
<xs:enumeration value="Ewr_InvalidParameterMandatoryMissing"/>
<xs:enumeration value="Ewr_InvalidParameterUnexpectedFormat"/>
<xs:enumeration value="Ewr_InvalidParameterOutOfRange"/>
<xs:enumeration value="Ewr_InvalidParameterOperationNotAllowed"/>
<xs:enumeration value="Ewr_ParameterInvalid"/>
<xs:enumeration value="Ewr_ParameterLimitExceeded"/>
<xs:enumeration value="Ewr_ParameterDoesNotExist"/>
<xs:enumeration value="Ewr_SetParameterFailure"/>
<xs:enumeration value="Ewr_SetParameterFailureOnOpen"/>
<xs:enumeration value="Ewr_ParameterReadFromDocPropsError"/>
<xs:enumeration value="Ewr_FormulaEditingNotEnabled"/>
<xs:enumeration value="Ewr_InvalidVisibleItem"/>
<xs:enumeration value="Ewr_EditSaveAsOverCurrentWorkbook"/>
<xs:enumeration value="Ewr_RequestTimedOut"/>
<xs:enumeration value="Ewr_ServerCommunicationError"/>
<xs:enumeration value="Ewr_ServerAuthenticationError"/>
<xs:enumeration value="Ewr_Top10InvalidValue"/>
<xs:enumeration value="Ewr_Top10InvalidValue_Float"/>
<xs:enumeration value="Mewa_PageStateInitFailed"/>
<xs:enumeration value="Mewa_CriticalParameterMissing"/>
<xs:enumeration value="Mewa_GridViewRenderingFailed"/>
<xs:enumeration value="Mewa_FeatureNotActive"/>
<xs:enumeration value="OperationNotSupportedInViewOnly"/>
<xs:enumeration value="OperationOnInvalidState"/>
<xs:enumeration value="InvalidOrTimedOutSession"/>
<xs:enumeration value="InvalidOrTimedOutSessionPageRefresh"/>
<xs:enumeration value="ScratchPadChangesLost"/>
<xs:enumeration value="MaxSessionsPerUserExceeded"/>
<xs:enumeration value="OperationCanceled"/>
<xs:enumeration value="MaxRequestDurationExceeded"/>
<xs:enumeration value="NoOccurrencesFound"/>
<xs:enumeration value="EcsInvalidNamedObject"/>
<xs:enumeration value="NoPublishedItems"/>
<xs:enumeration value="RetryError"/>
<xs:enumeration value="StopOpenOnRefreshFailure"/>
<xs:enumeration value="ProductExpired"/>
<xs:enumeration value="SortActionInvalid"/>
<xs:enumeration value="SortActionNotSupportedWithPivot"/>

```

```

<xs:enumeration value="CircularReferencesFound"/>
<xs:enumeration value="SessionNotFound"/>
<xs:enumeration value="NewWorkbookSessionTimeout"/>
<xs:enumeration value="EditXLSFile"/>
<xs:enumeration value="UnsupportedFeatureEditWarning"/>
<xs:enumeration value="EditModeSessionExists"/>
<xs:enumeration value="NewerWorkbookExists"/>
<xs:enumeration value="ExternalDataOfficeLive"/>
<xs:enumeration value="LostAuthentication"/>
<xs:enumeration value="ListEntryNotFound_1"/>
<xs:enumeration value="ListEntryNotFound_2"/>
<xs:enumeration value="ListEntryAlreadyExists_1"/>
<xs:enumeration value="ListEntryAlreadyExists_2"/>
<xs:enumeration value="InvalidArgumentValue"/>
<xs:enumeration value="MissingArgumentName"/>
<xs:enumeration value="InvalidArgumentName"/>
<xs:enumeration value="ArgumentBadInRemove"/>
<xs:enumeration value="ManagementUIListEntryAlreadyExists"/>
<xs:enumeration value="ManagementUIListEntryNotFound"/>
<xs:enumeration value="ManagementUIInternalError"/>
<xs:enumeration value="UnsupportedUICulture"/>
<xs:enumeration value="UnsupportedDataCulture"/>
<xs:enumeration value="SpecifiedItemNotFound"/>
<xs:enumeration value="EcsSnapshotAccessDenied"/>
<xs:enumeration value="SaveFailed"/>
<xs:enumeration value="WrongEcs"/>
<xs:enumeration value="PasteDataLimitHit"/>
<xs:enumeration value="UndoStackEmpty"/>
<xs:enumeration value="RedoStackEmpty"/>
<xs:enumeration value="UndoRedoCollabFail"/>
<xs:enumeration value="HyperlinkLocationRequired"/>
<xs:enumeration value="CollabLocaleMismatch"/>
<xs:enumeration value="LocaleRestored"/>
<xs:enumeration value="InvalidEditSession"/>
<xs:enumeration value="InvalidEditSessionPageRefresh"/>
<xs:enumeration value="InvalidEditSessionId"/>
<xs:enumeration value="UnableToLoadEditSession"/>
<xs:enumeration value="SavingWorkbookFailed"/>
<xs:enumeration value="RefreshLockFailed"/>
<xs:enumeration value="InvalidChartName"/>
<xs:enumeration value="RetryOutOfSync"/>
<xs:enumeration value="OperationFailed"/>
<xs:enumeration value="OpenInExcelActiveXError"/>
<xs:enumeration value="OpenInExcelClientIntegrationDisabled"/>
<xs:enumeration value="ProcessingUserChangesFileDownloadIgnored"/>
<xs:enumeration value="PhoneticDataLossWarning"/>
<xs:enumeration value="Count"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for ExcelServerMessageId:

Value	Meaning
Blank	For details, see ExcelServerMessageId.
InternalError	For details, see ExcelServerMessageId.

Value	Meaning
NotMemberOfRole	For details, see ExcelServerMessageId.
EncryptionTooLow	For details, see ExcelServerMessageId.
ConfirmDataRefresh	For details, see ExcelServerMessageId.
ExternalDataRefreshFailed	For details, see ExcelServerMessageId.
ExternalDataRefreshFailedReal	For details, see ExcelServerMessageId.
ExternalDataRefreshFailedReadOrViewOnly	For details, see ExcelServerMessageId.
NoAccessToOdcReadOrViewOnly	For details, see ExcelServerMessageId.
ErrorConnectingToDataSourceReadOrViewOnly	For details, see ExcelServerMessageId.
InvalidUserNameOrPasswordReadOrViewOnly	For details, see ExcelServerMessageId.
InvalidUserNameOrPassword	For details, see ExcelServerMessageId.
ExternalDataNotAllowedOnTL	For details, see ExcelServerMessageId.
InvalidUriorLocalConnectionPath	For details, see ExcelServerMessageId.
DclNotTrusted	For details, see ExcelServerMessageId.
OdcFileDoesNotExist	For details, see ExcelServerMessageId.
ErrorAccessingSsoFromEcs	For details, see ExcelServerMessageId.
SsoError	For details, see ExcelServerMessageId.
ErrorConnectingToDataSource	For details, see ExcelServerMessageId.
UnattendedAccountNotConfigured	For details, see ExcelServerMessageId.
IncorrectAuthUsed	For details, see ExcelServerMessageId.
ExternalDataRefreshFailed_Details	For details, see ExcelServerMessageId.
PivotNoOverlapAllowed	For details, see ExcelServerMessageId.
PivotOverlapList	For details, see ExcelServerMessageId.
PivotCubeNotUnique	For details, see ExcelServerMessageId.
NoDataItemsOlap	For details, see ExcelServerMessageId.
OlapSchemaFail	For details, see ExcelServerMessageId.
InvalidPivot	For details, see ExcelServerMessageId.
OlapNoMoreDetail	For details, see ExcelServerMessageId.
DrillActionInvalid	For details, see ExcelServerMessageId.
DriverNotOlap	For details, see ExcelServerMessageId.
CubeMissing	For details, see ExcelServerMessageId.

Value	Meaning
SkipLine	For details, see ExcelServerMessageId.
CDimMismatch	For details, see ExcelServerMessageId.
DataSetAxisTooBig	For details, see ExcelServerMessageId.
CubeIntegrityError	For details, see ExcelServerMessageId.
PivotNotExpandedtoProtectCellContents	For details, see ExcelServerMessageId.
PivotTruncatedSheetEdge	For details, see ExcelServerMessageId.
DdlGrpNotSup	For details, see ExcelServerMessageId.
PivotFormulasCollided	For details, see ExcelServerMessageId.
NoRetItems	For details, see ExcelServerMessageId.
OlapConnectVisualModeProvider	For details, see ExcelServerMessageId.
PivotNoSourceData	For details, see ExcelServerMessageId.
PivotFilteringError	For details, see ExcelServerMessageId.
PivotTableIncorrectDateFormat	For details, see ExcelServerMessageId.
PivotTableEndingLargerThanStarting	For details, see ExcelServerMessageId.
PivotTableIncorrectNumberFormat	For details, see ExcelServerMessageId.
PivotTableOutOfRange	For details, see ExcelServerMessageId.
MergedCellOverlap	For details, see ExcelServerMessageId.
PivotSourceNotAvailable	For details, see ExcelServerMessageId.
UnexpectedPivotError	For details, see ExcelServerMessageId.
EditModeCannotAcquireLockUnknownReason	For details, see ExcelServerMessageId.
EditModeCannotAcquireLock	For details, see ExcelServerMessageId.
EditModeCannotAcquireLockUnknownUser	For details, see ExcelServerMessageId.
EditModeWorkbookCheckedOutRequired	For details, see ExcelServerMessageId.
EditModeWorkbookCheckedOutToLocalDrafts	For details, see ExcelServerMessageId.
SiteTooBusy	For details, see ExcelServerMessageId.
SiteCollectionMemoryQuotaExceeded	For details, see ExcelServerMessageId.
SessionMemoryQuotaExceeded	For details, see ExcelServerMessageId.
SiteCollectionChartQuotaExceeded	For details, see ExcelServerMessageId.
RequestLimitsExceeded	For details, see ExcelServerMessageId.
SavingUnsupportedInViewMode	For details, see ExcelServerMessageId.

Value	Meaning
SavingWorkbookNoWorkbookName	For details, see ExcelServerMessageId.
FileSaveGeneric	For details, see ExcelServerMessageId.
SavingWorkbookInvalidPermissions	For details, see ExcelServerMessageId.
SavingWorkbookLockedOrCheckedOut	For details, see ExcelServerMessageId.
SavingWorkbookNotCheckedOut	For details, see ExcelServerMessageId.
SavingWorkbookAccessDenied	For details, see ExcelServerMessageId.
SavingWorkbookInvalidFileType	For details, see ExcelServerMessageId.
SavingWorkbookFileNameExists	For details, see ExcelServerMessageId.
HostedSavingWorkbookFileNameExists	For details, see ExcelServerMessageId.
HostedSavingWorkbookInvalidFileName	For details, see ExcelServerMessageId.
SavingWorkbookNotTrustedLocation	For details, see ExcelServerMessageId.
SavingWorkbookInvalidLocation	For details, see ExcelServerMessageId.
SavingWorkbookInvalidFileName	For details, see ExcelServerMessageId.
SavingWorkbookTrustedLocationSettingWarning	For details, see ExcelServerMessageId.
SavingWorkbookAlmostTooLarge	A notification that the workbook is close to the maximum allowed file size.
SavingWorkbookTooLarge	A notification that the workbook exceeds the maximum allowed file size.
NewWorkbookInvalidLocation	For details, see ExcelServerMessageId.
FileOpenSecuritySettings	For details, see ExcelServerMessageId.
FileOpenNotFound	For details, see ExcelServerMessageId.
FileOpenAccessDenied	For details, see ExcelServerMessageId.
FileCorrupt	For details, see ExcelServerMessageId.
OpenWorkbookTooLarge	For details, see ExcelServerMessageId.
OpenWorkbookLocationNotTrusted	For details, see ExcelServerMessageId.
OpenWorkbookAccessDenied	For details, see ExcelServerMessageId.
WorkbookNotSupported	For details, see ExcelServerMessageId.
WorkbookNotSupportedViewRight	For details, see ExcelServerMessageId.
UnsupportedFeatureViewWarning	The specified workbook contains unsupported content, but this did not prevent the protocol server from creating a session (2).
UnsupportedFeatureSaveCopyWarning	For details, see ExcelServerMessageId.

Value	Meaning
ExternalWorkbookLinksDisabled	A notification that the workbook contains links to external workbooks. Whilst the links are disabled, this does not prevent the workbook from loading.
WorkbookLockedRead	For details, see ExcelServerMessageId.
EditModeCannotEditNonSharePointWorkbook	For details, see ExcelServerMessageId.
EditModeAccessDenied	For details, see ExcelServerMessageId.
GenericFileOpenError	For details, see ExcelServerMessageId.
IRMedWorkbook	For details, see ExcelServerMessageId.
ParameterInvalid	For details, see ExcelServerMessageId.
ParameterLimitExceeded	For details, see ExcelServerMessageId.
WorkbookInternalLimit	For details, see ExcelServerMessageId.
OldFormatConversionFailed	For details, see ExcelServerMessageId.
EditModeWorkbookExternalData	For details, see ExcelServerMessageId.
FormulaEditingNotEnabled	For details, see ExcelServerMessageId.
DimensionMismatch	For details, see ExcelServerMessageId.
SetRangeFailure	For details, see ExcelServerMessageId.
ObjectTypeNotSupported	For details, see ExcelServerMessageId.
ParameterDoesNotExist	For details, see ExcelServerMessageId.
FormulaParseFailed	For details, see ExcelServerMessageId.
SetParameterFailure	For details, see ExcelServerMessageId.
CannotEditPivotTable	For details, see ExcelServerMessageId.
InsDelCellsNonblankCells	For details, see ExcelServerMessageId.
InsDelCellsArrayFmla	For details, see ExcelServerMessageId.
InsDelCellsPivotTable	For details, see ExcelServerMessageId.
InsDelCellsTable	For details, see ExcelServerMessageId.
InsDelCellsMergedCells	For details, see ExcelServerMessageId.
InsDelCellsDatatable	For details, see ExcelServerMessageId.
InsDelCellsRowsForWholeColumn	For details, see ExcelServerMessageId.
InsDelCellsColumnsForWholeRow	For details, see ExcelServerMessageId.
InvalidSheetName	For details, see ExcelServerMessageId.
RangeParseError	For details, see ExcelServerMessageId.

Value	Meaning
SpecifiedRangeNotFound	For details, see ExcelServerMessageId.
RangeDefinitionError	For details, see ExcelServerMessageId.
DiscontiguousRangeNotSupported	For details, see ExcelServerMessageId.
RangeRequestAreaExceeded	For details, see ExcelServerMessageId.
SheetRangeMismatch	For details, see ExcelServerMessageId.
ImageGenFailed	For details, see ExcelServerMessageId.
ApiInvalidArgument	For details, see ExcelServerMessageId.
ApiInvalidCoordinate	For details, see ExcelServerMessageId.
ConfirmationUnsupported	For details, see ExcelServerMessageId.
ApiInvalidDimensionReturned	For details, see ExcelServerMessageId.
ApiMissingSiteContext	For details, see ExcelServerMessageId.
Ewr_IllegalPageSize	For details, see ExcelServerMessageId.
Ewr_WorkbookNotSpecified	For details, see ExcelServerMessageId.
Ewr_LoadProgress	For details, see ExcelServerMessageId.
Ewr_FileCorrupt	For details, see ExcelServerMessageId.
Ewr_WorkbookNotSupported	For details, see ExcelServerMessageId.
Ewr_GenericFileOpenError	For details, see ExcelServerMessageId.
Ewr_InvalidParameterGeneric	For details, see ExcelServerMessageId.
Ewr_InvalidParameterMandatoryMissing	For details, see ExcelServerMessageId.
Ewr_InvalidParameterUnexpectedFormat	For details, see ExcelServerMessageId.
Ewr_InvalidParameterOutOfRange	For details, see ExcelServerMessageId.
Ewr_InvalidParameterOperationNotAllowed	For details, see ExcelServerMessageId.
Ewr_ParameterInvalid	For details, see ExcelServerMessageId.
Ewr_ParameterLimitExceeded	For details, see ExcelServerMessageId.
Ewr_ParameterDoesNotExist	For details, see ExcelServerMessageId.
Ewr_SetParameterFailure	For details, see ExcelServerMessageId.
Ewr_SetParameterFailureOnOpen	For details, see ExcelServerMessageId.
Ewr_ParameterReadFromDocPropsError	For details, see ExcelServerMessageId.
Ewr_FormulaEditingNotEnabled	For details, see ExcelServerMessageId.
Ewr_InvalidVisibleItem	For details, see ExcelServerMessageId.

Value	Meaning
Ewr_EditSaveAsOverCurrentWorkbook	For details, see ExcelServerMessageId.
Ewr_RequestTimedOut	For details, see ExcelServerMessageId.
Ewr_ServerCommunicationError	For details, see ExcelServerMessageId.
Ewr_ServerAuthenticationError	For details, see ExcelServerMessageId.
Ewr_Top10InvalidValue	For details, see ExcelServerMessageId.
Ewr_Top10InvalidValue_Float	For details, see ExcelServerMessageId.
Mewa_PageStateInitFailed	For details, see ExcelServerMessageId.
Mewa_CriticalParameterMissing	For details, see ExcelServerMessageId.
Mewa_GridViewRenderingFailed	For details, see ExcelServerMessageId.
Mewa_FeatureNotActive	For details, see ExcelServerMessageId.
OperationNotSupportedInViewOnly	For details, see ExcelServerMessageId.
OperationOnInvalidState	For details, see ExcelServerMessageId.
InvalidOrTimedOutSession	For details, see ExcelServerMessageId.
InvalidOrTimedOutSessionPageRefresh	For details, see ExcelServerMessageId.
ScratchPadChangesLost	For details, see ExcelServerMessageId.
MaxSessionsPerUserExceeded	For details, see ExcelServerMessageId.
OperationCanceled	For details, see ExcelServerMessageId.
MaxRequestDurationExceeded	For details, see ExcelServerMessageId.
NoOccurrencesFound	For details, see ExcelServerMessageId.
EcsInvalidNamedObject	For details, see ExcelServerMessageId.
NoPublishedItems	For details, see ExcelServerMessageId.
RetryError	For details, see ExcelServerMessageId.
StopOpenOnRefreshFailure	For details, see ExcelServerMessageId.
ProductExpired	For details, see ExcelServerMessageId.
SortActionInvalid	For details, see ExcelServerMessageId.
SortActionNotSupportedWithPivot	For details, see ExcelServerMessageId.
CircularReferencesFound	For details, see ExcelServerMessageId.
SessionNotFound	For details, see ExcelServerMessageId.
NewWorkbookSessionTimeout	For details, see ExcelServerMessageId.
EditXLSFile	For details, see ExcelServerMessageId.

Value	Meaning
UnsupportedFeatureEditWarning	For details, see ExcelServerMessageId.
EditModeSessionExists	For details, see ExcelServerMessageId.
NewerWorkbookExists	For details, see ExcelServerMessageId.
ExternalDataOfficeLive	For details, see ExcelServerMessageId.
LostAuthentication	For details, see ExcelServerMessageId.
ListEntryNotFound_1	For details, see ExcelServerMessageId.
ListEntryNotFound_2	For details, see ExcelServerMessageId.
ListEntryAlreadyExists_1	For details, see ExcelServerMessageId.
ListEntryAlreadyExists_2	For details, see ExcelServerMessageId.
InvalidArgumentValue	For details, see ExcelServerMessageId.
MissingArgumentName	For details, see ExcelServerMessageId.
InvalidArgumentName	For details, see ExcelServerMessageId.
ArgumentBadInRemove	For details, see ExcelServerMessageId.
ManagementUIListEntryAlreadyExists	For details, see ExcelServerMessageId.
ManagementUIListEntryNotFound	For details, see ExcelServerMessageId.
ManagementUIInternalError	For details, see ExcelServerMessageId.
UnsupportedUICulture	For details, see ExcelServerMessageId.
UnsupportedDataCulture	For details, see ExcelServerMessageId.
SpecifiedItemNotFound	For details, see ExcelServerMessageId.
EcsSnapshotAccessDenied	For details, see ExcelServerMessageId.
SaveFailed	For details, see ExcelServerMessageId.
WrongEcs	For details, see ExcelServerMessageId.
PasteDataLimitHit	For details, see ExcelServerMessageId.
UndoStackEmpty	For details, see ExcelServerMessageId.
RedoStackEmpty	For details, see ExcelServerMessageId.
UndoRedoCollabFail	For details, see ExcelServerMessageId.
HyperlinkLocationRequired	For details, see ExcelServerMessageId.
CollabLocaleMismatch	For details, see ExcelServerMessageId.
LocaleRestored	For details, see ExcelServerMessageId.
InvalidEditSession	For details, see ExcelServerMessageId.

Value	Meaning
InvalidEditSessionPageRefresh	For details, see ExcelServerMessageId.
InvalidEditSessionId	For details, see ExcelServerMessageId.
UnableToLoadEditSession	For details, see ExcelServerMessageId.
SavingWorkbookFailed	For details, see ExcelServerMessageId.
RefreshLockFailed	For details, see ExcelServerMessageId.
InvalidChartName	For details, see ExcelServerMessageId.
RetryOutOfSync	For details, see ExcelServerMessageId.
OperationFailed	For details, see ExcelServerMessageId.
OpenInExcelActiveXError	For details, see ExcelServerMessageId.
OpenInExcelClientIntegrationDisabled	For details, see ExcelServerMessageId.
ProcessingUserChangesFileDownloadIgnored	For details, see ExcelServerMessageId.
PhoneticDataLossWarning	For details, see ExcelServerMessageId.
Count	For details, see ExcelServerMessageId.

2.2.5.15 ExcelServerMessageSeverity

Specifies the severity of the alert (2) that the protocol server returns to the protocol client.

```
<xs:simpleType name="ExcelServerMessageSeverity">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Error"/>
    <xs:enumeration value="Warning"/>
    <xs:enumeration value="Information"/>
    <xs:enumeration value="Progress"/>
    <xs:enumeration value="GettingStarted"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageSeverity:

Value	Meaning
Error	The alert (2) is of type error.
Warning	The alert (2) is of type warning.
Information	The alert (2) is of type information.
Progress	MUST NOT be used.
GettingStarted	MUST NOT be used.

2.2.5.16 ExcelServerMessageType

Specifies the type of the alert (2) that the protocol server returns to the protocol client.

```
<xs:simpleType name="ExcelServerMessageType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Alert"/>
    <xs:enumeration value="Status"/>
    <xs:enumeration value="Confirmation"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageType:

Value	Meaning
Alert	The alert (2) is of type alert.
Status	The alert (2) is of type status.
Confirmation	The alert (2) is of type confirmation.

2.2.5.17 NamedObjectType

Specifies the type of a published item.

```
<xs:simpleType name="NamedObjectType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="InvalidNamedObjectType"/>
    <xs:enumeration value="Chart"/>
    <xs:enumeration value="PivotTable"/>
    <xs:enumeration value="Table"/>
    <xs:enumeration value="NamedRange"/>
    <xs:enumeration value="MaxNamedObjectType"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for NamedObjectType:

Value	Meaning
InvalidNamedObjectType	MUST NOT be used.
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 table.
NamedRange	Specifies that the published item is a named range .
MaxNamedObjectType	MUST NOT be used.

2.2.5.18 PivotFilterType

The **PivotFilterType** is an enumeration of types of PivotTable filters that can be applied on a PivotTable field. The following types of PivotTable filters are supported:

- **top N filter** or a **bottom N filter**
- PivotTable **custom label filter**
- PivotTable **custom value filter**

```
<xs:simpleType name="PivotFilterType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Invalid"/>
    <xs:enumeration value="FirstTop10"/>
    <xs:enumeration value="Count"/>
    <xs:enumeration value="Percent"/>
    <xs:enumeration value="Sum"/>
    <xs:enumeration value="LastTop10"/>
    <xs:enumeration value="CaptionFirst"/>
    <xs:enumeration value="CaptionEquals"/>
    <xs:enumeration value="CaptionDoesNotEqual"/>
    <xs:enumeration value="CaptionBeginsWith"/>
    <xs:enumeration value="CaptionDoesNotBeginWith"/>
    <xs:enumeration value="CaptionEndsWith"/>
    <xs:enumeration value="CaptionDoesNotEndWith"/>
    <xs:enumeration value="CaptionContains"/>
    <xs:enumeration value="CaptionDoesNotContain"/>
    <xs:enumeration value="CaptionIsGreaterThan"/>
    <xs:enumeration value="CaptionIsGreaterThanOrEqualTo"/>
    <xs:enumeration value="CaptionIsLessThan"/>
    <xs:enumeration value="CaptionIsLessThanOrEqualTo"/>
    <xs:enumeration value="CaptionIsBetween"/>
    <xs:enumeration value="CaptionIsNotBetween"/>
    <xs:enumeration value="ValueFirst"/>
    <xs:enumeration value="ValueEqual"/>
    <xs:enumeration value="ValueNotEqual"/>
    <xs:enumeration value="ValueGreaterThan"/>
    <xs:enumeration value="ValueGreaterThanOrEqual"/>
    <xs:enumeration value="ValueLessThan"/>
    <xs:enumeration value="ValueLessThanOrEqual"/>
    <xs:enumeration value="ValueBetween"/>
    <xs:enumeration value="ValueNotBetween"/>
    <xs:enumeration value="DateFirst"/>
    <xs:enumeration value="DateEquals"/>
    <xs:enumeration value="DateOlderThan"/>
    <xs:enumeration value="DateNewerThan"/>
    <xs:enumeration value="DateBetween"/>
    <xs:enumeration value="DateTomorrow"/>
    <xs:enumeration value="DateToday"/>
    <xs:enumeration value="DateYesterday"/>
    <xs:enumeration value="DateNextWeek"/>
    <xs:enumeration value="DateThisWeek"/>
    <xs:enumeration value="DateLastWeek"/>
    <xs:enumeration value="DateNextMonth"/>
    <xs:enumeration value="DateThisMonth"/>
    <xs:enumeration value="DateLastMonth"/>
    <xs:enumeration value="DateNextQuarter"/>
    <xs:enumeration value="DateThisQuarter"/>
  </xs:restriction>
</xs:simpleType>
```

```

<xs:enumeration value="DateLastQuarter"/>
<xs:enumeration value="DateNextYear"/>
<xs:enumeration value="DateThisYear"/>
<xs:enumeration value="DateLastYear"/>
<xs:enumeration value="DateYearToDate"/>
<xs:enumeration value="DateAllDatesInPeriodQuarter1"/>
<xs:enumeration value="DateAllDatesInPeriodQuarter2"/>
<xs:enumeration value="DateAllDatesInPeriodQuarter3"/>
<xs:enumeration value="DateAllDatesInPeriodQuarter4"/>
<xs:enumeration value="DateAllDatesInPeriodJanuary"/>
<xs:enumeration value="DateAllDatesInPeriodFebruary"/>
<xs:enumeration value="DateAllDatesInPeriodMarch"/>
<xs:enumeration value="DateAllDatesInPeriodApril"/>
<xs:enumeration value="DateAllDatesInPeriodMay"/>
<xs:enumeration value="DateAllDatesInPeriodJune"/>
<xs:enumeration value="DateAllDatesInPeriodJuly"/>
<xs:enumeration value="DateAllDatesInPeriodAugust"/>
<xs:enumeration value="DateAllDatesInPeriodSeptember"/>
<xs:enumeration value="DateAllDatesInPeriodOctober"/>
<xs:enumeration value="DateAllDatesInPeriodNovember"/>
<xs:enumeration value="DateAllDatesInPeriodDecember"/>
<xs:enumeration value="DateNotEqual"/>
<xs:enumeration value="DateOlderOrEqual"/>
<xs:enumeration value="DateNewerOrEqual"/>
<xs:enumeration value="DateNotBetween"/>
<xs:enumeration value="Last"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for PivotFilterType:

Value	Meaning
Invalid	Neither a PivotTable custom filter nor a top N filter nor a bottom N filter are applied.
FirstTop10	A top N filter by count or a bottom N filter by count is applied. Used with top N filter or bottom N filter.
Count	A top N filter by count or a bottom N filter by count is applied. Used with top N filter or bottom N filter.
Percent	A top N filter by percent or a bottom N filter by percent is applied. Used with top N filter or bottom N filter.
Sum	A top N filter by sum or a bottom N filter by sum is applied. Used with top N filter or bottom N filter.
LastTop10	A top N filter by sum or a bottom N filter by sum is applied. Used with top N filter or bottom N filter.
CaptionFirst	The PivotTable member caption is equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionEquals	The PivotTable member caption is equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.

Value	Meaning
CaptionDoesNotEqual	The PivotTable member caption is not equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionBeginsWith	The PivotTable member caption begins with the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionDoesNotBeginWith	The PivotTable member caption does not begin with the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionEndsWith	The PivotTable member caption ends with the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionDoesNotEndWith	The PivotTable member caption does not end with the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionContains	The PivotTable member caption contains the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionDoesNotContain	The PivotTable member caption does not contain the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionIsGreaterThan	The PivotTable member caption is greater than the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionIsGreaterThanOrEqualTo	The PivotTable member caption is greater than or equal to the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionIsLessThan	The PivotTable member caption is less than the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionIsLessThanOrEqualTo	The PivotTable member caption is less than or equal to the value in the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
CaptionIsBetween	The PivotTable member caption is greater than or equal to the value of the first PivotTable filter parameter and less than or equal to the value of the second PivotTable filter parameter. Supports two PivotTable filter parameters. Used with PivotTable custom label filter.
CaptionIsNotBetween	The PivotTable member caption is less than the value of the first PivotTable filter parameter or greater than the value of the second PivotTable filter parameter. Supports two PivotTable filter parameters. Used with PivotTable custom label filter.
ValueFirst	The value of the PivotTable member is equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueEqual	The value of the PivotTable member is equal to the value of the

Value	Meaning
	PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueNotEqual	The value of the PivotTable member is not equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueGreaterThan	The value of the PivotTable member is greater than the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueGreaterThanOrEqual	The value of the PivotTable member is greater than or equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueLessThan	The value of the PivotTable member is less than the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueLessThanOrEqual	The value of the PivotTable member is less than or equal to the value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom value filter.
ValueBetween	The value of the PivotTable member is greater than or equal to the value of the first PivotTable filter parameter and less than or equal to the value of the second PivotTable filter parameter. Supports two PivotTable filter parameters. Used with PivotTable custom value filter.
ValueNotBetween	The value of the PivotTable member is less than the value of the first PivotTable filter parameter or greater than the value of the second PivotTable filter parameter. Supports two PivotTable filter parameters. Used with PivotTable custom value filter.
DateFirst	The PivotTable member caption is equal to the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateEquals	The PivotTable member caption is equal to the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateOlderThan	The PivotTable member caption is less than the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateNewerThan	The PivotTable member caption is greater than the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateBetween	The PivotTable member caption is greater than or equal to the value of the first PivotTable filter parameter and less than or equal to the value of the second PivotTable filter parameter. Supports two PivotTable filter parameters. Used with PivotTable custom label filter.
DateTomorrow	The PivotTable member caption is tomorrow's date. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateToday	The PivotTable member caption is today's date. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.

Value	Meaning
DateYesterday	The PivotTable member caption is yesterday's date. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateNextWeek	The PivotTable member caption is a date next week. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateThisWeek	The PivotTable member caption is a date this week. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateLastWeek	The PivotTable member caption is a date last week. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateNextMonth	The PivotTable member caption is a date next month. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateThisMonth	The PivotTable member caption is a date this month. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateLastMonth	The PivotTable member caption is a date last month. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateNextQuarter	The PivotTable member caption is a date next quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateThisQuarter	The PivotTable member caption is a date this quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateLastQuarter	The PivotTable member caption is a date last quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateNextYear	The PivotTable member caption is a date next year. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateThisYear	The PivotTable member caption is a date this year. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateLastYear	The PivotTable member caption is a date last year. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateYearToDate	The PivotTable member caption is a date year to date. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodQuarter1	The PivotTable member caption is a date in the first quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodQuarter2	The PivotTable member caption is a date in the second quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodQuarter3	The PivotTable member caption is a date in the third quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodQuarter4	The PivotTable member caption is a date in the fourth quarter. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodJanuary	The PivotTable member caption is a date in January. Supports zero

Value	Meaning
	PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodFebruary	The PivotTable member caption is a date in February. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodMarch	The PivotTable member caption is a date in March. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodApril	The PivotTable member caption is a date in April. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodMay	The PivotTable member caption is a date in May. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodJune	The PivotTable member caption is a date in June. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodJuly	The PivotTable member caption is a date in July. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodAugust	The PivotTable member caption is a date in August. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodSeptember	The PivotTable member caption is a date in September. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodOctober	The PivotTable member caption is a date in October. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodNovember	The PivotTable member caption is a date in November. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateAllDatesInPeriodDecember	The PivotTable member caption is a date in December. Supports zero PivotTable filter parameters. Used with PivotTable custom label filter.
DateNotEqual	The PivotTable member caption is not equal to the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateOlderOrEqual	The PivotTable member caption is less than or equal to the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateNewerOrEqual	The PivotTable member caption is greater than or equal to the date value of the PivotTable filter parameter. Supports one PivotTable filter parameter. Used with PivotTable custom label filter.
DateNotBetween	The PivotTable member caption is a date less than the first parameter or greater than the second parameter PivotTable filter parameters. Supports two PivotTable filter parameters. Used with PivotTable custom label filter.
Last	MUST NOT be used.

2.2.5.19 RangeReference

A string which is used by the protocol server to identify a range on a worksheet in a workbook, in operations specified by this protocol. MUST NOT be longer than 32768 characters. MAY [<3>](#) use any format to identify the range.

```
<xs:simpleType name="RangeReference">
  <xs:restriction base="xs:string"/>
</xs:simpleType>
```

2.2.5.20 ServerStateFlags

An enumeration specifying the state of the protocol server.

```
<xs:simpleType name="ServerStateFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="ShuttingDown"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for ServerStateFlags:

Value	Meaning
ShuttingDown	The protocol server is shutting down.

2.2.5.21 SessionIdentifier

The **SessionIdentifier** string is used to uniquely identify a session (2) on the protocol server, and to contain information about the session (2).

The **SessionIdentifier** MUST have the following layout:

(Numeric values in parts 1, 3, 5, 6, 8, 10, 12, and 14 MUST follow the s:integer type representation)

Part 1: MUST be the value 1, followed by a '.'.

Part 2: MUST be 'E' if the identified session (2) is an edit session. Otherwise, MUST be 'V'.

Part 3: The number of characters in part 4, followed by a '.'.

Part 4: A unique string. MUST be greater than or equal to 20 and less than or equal to 32647 characters long.

Part 5: The sum of number of characters in parts 6-11, followed by a '.'.

Part 6: The number of characters in part 7, followed by a '.'.

Part 7: The UI culture of the session (2). A language tag, as specified in [\[RFC1766\]](#), Section 2.

Part 8: The number of characters in part 9, followed by a '.'.

Part 9: The data culture of the session (2). A language tag, as specified in [\[RFC1766\]](#), Section 2.

Part 10: The number of characters in part 11, followed by a '.'.

Part 11: The **time zone** of the session (2) as specified in **CultureCommandParameter** complex type (Section [3.1.4.30.3.1](#)).

Part 12: The number of characters in part 13, followed by a '.'.

Part 13: MUST be equal to the value of **RequestSiteId** passed in **parameter**, in the **OpenWorkbook** operation.

Part 14: The number of characters in part 15, followed by a '.'.

Part 15: If the identified session (2) is a new workbook session, then MUST be 'U'.

Otherwise, if the identified session (2) is not an edit session, then MUST be 'N'. If the identified session (2) is an edit session, MUST be a unique string. The protocol server uses this string to uniquely identify a participant in the session.

```
<xs:simpleType name="SessionIdentifier">
  <xs:restriction base="xs:string"/>
</xs:simpleType>
```

2.2.5.22 WorkbookType

The **WorkbookType** simple type is an enumeration that is used to specify the form of the requested workbook.

```
<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>
```

The following table specifies the allowable values for WorkbookType:

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

None.

2.2.7 Groups

None.

2.2.8 Attribute Groups

None.

2.2.9 Faults

In the event of an application error the protocol server returns a soap fault as a response to the operation, as specified in [\[SOAP1.1\]](#), section 4.4.

- The protocol client MUST ignore all elements of the soap fault, except for the **SOAP fault detail** element.
- The soap fault detail element MUST contain the protocol server alert as specified in [ExcelServerMessage](#).

2.2.9.1 Common list of IDs

The **Id** element of the **ExcelServerMessage** SHOULD [<4>](#) be one of the following values, unless specified otherwise.

Id
CollabLocaleMismatch
ConfirmDataRefresh
EditModeAccessDenied
EditModeCannotAcquireLockUnknownReason
InternalError
InvalidEditSession
InvalidOrTimedOutSession
MaxRequestDurationExceeded
NewWorkbookSessionTimeout
OperationOnInvalidState
RefreshLockFailed
RequestLimitsExceeded
RetryError
SavingWorkbookFailed
SessionMemoryQuotaExceeded
SpecifiedRangeNotFound
UnableToLoadEditSession
WrongEcs

3 Protocol Details

In the following sections, the schema definition might be less restrictive than 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 specifies additional restrictions 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, present, and not null.

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. 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 authorization checks and notify protocol clients of authorization faults as specified previously in this section.

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.

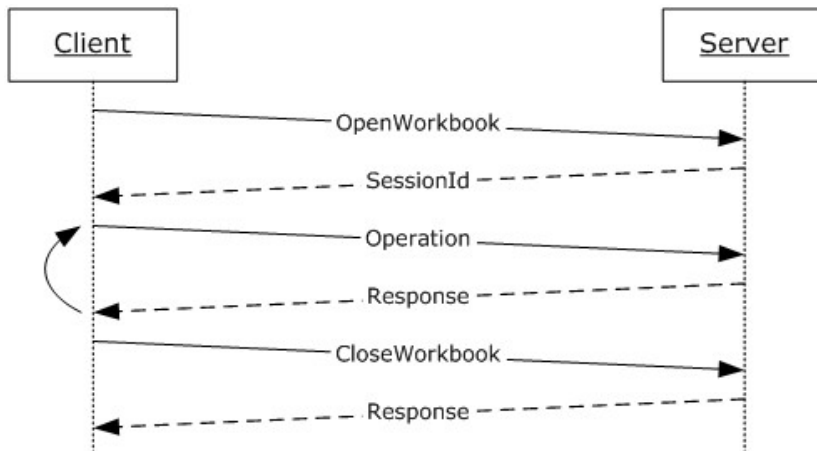


Figure 2: Excel Calculation Web Service Protocol high-level sequence diagram

Session Behavior

View Sessions

A view session is created on a successful **OpenWorkbook** request, as specified in [OpenWorkbook](#). A view session stops responding to operations after a successful call to the **CloseWorkbook** operation or after the view session has timed out.

NewWorkbook Sessions

A new workbook session is created on a successful **OpenWorkbook** request, as specified in OpenWorkbook. 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 **OpenWorkbook** request, unless one already exists for the same workbook, as specified by the **url** element in OpenWorkbook. A new participant is added to the edit session on a successful **OpenWorkbook** request.

The current participant is removed from the edit session on a successful call to **CloseWorkbook**. An edit session stops responding to operations when all of its participants have been removed.

Request Behavior

A request is created when a **Web service** operation starts running on the protocol 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 which gives context to operations done against a workbook. A session (2) is associated with a workbook state, which can be modified by state changing operations.

State Identifier: Each session has a counter which represents its state.

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

Instance Identifier: A unique identifier for the protocol server. Used to identify each instance of the protocol server in farm installations.

Asynchronous Operations: An operation on the protocol server which begins when a request is received, in which the protocol server returns a response before the operation is complete. The protocol client – protocol server communication is defined as follows:

1. The protocol client issues an initiating request against the server, specifying an estimated response timeout.
2. The protocol server begins a normal operation.
3. If the operation has finished before the estimated response timeout, the protocol server returns a response to the protocol client, as expected for the specific operation.
4. If the operation has not finished before the estimated response timeout, the protocol server returns a response which contains a unique request identifier to the protocol client.
5. The protocol client then queries the protocol server about the completion of the operation by issuing the same operation that was issued in the initiating request, including the unique request identifier which was returned by the protocol server on the response to the initiating request.

6. If the operation is still incomplete, go back to step 4.
7. If the operation is complete, the protocol server returns a response to the protocol client, as expected for the specific operation.

3.1.2 Timers

3.1.2.1 Session Timeout

The **Session Timeout** timer measures the time it take for a sessions (2) to time out.

3.1.2.2 Request Timeout

The **Request Timeout** timer measures the time it takes for a request to time out.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

This section includes specifications of operations for this protocol.

This specification includes the following **WSDL operations**:

WSDL Operation	Description
ApplyItemFilter	This operation is used to change the filtering of a table or worksheet AutoFilter in the workbook.
ApplyPivotFilter	This operation is used to apply a PivotTable custom filter or a PivotTable manual filter on a PivotTable field.
ApplyPivotSort	This operation is used to change the sort order (2) of a PivotTable field in the workbook.
ApplyPivotTop10Filter	This operation is used to apply a top N filter or a bottom N filter on a PivotTable field.
ApplySlicerSelection	This operation is used to update the state of the slicer items that are part of a slicer.
ApplyTop10Filter	This operation is used to apply a top N filter or a bottom N filter on a column (2) in a worksheet or in a table.
CancelRequest	This operation is used to cancel all requests currently running on the protocol server against the session.
CloseWorkbook	This operation is used to close a session (2) or leave an edit session on the protocol server.
ConnectAndGetPivotFilterItemList	This operation is used to return the PivotTable members that are part of a PivotTable manual filter hierarchy.
ConnectAndGetSlicerItemList	This operation is used to return the slicer items and formatting information for the slicer visual components that are part of a slicer.
ExpandCollapseOutline	This operation is used to toggle the outline state in the workbook.

WSDL Operation	Description
FindRange	This operation is used to find a string inside a workbook.
GetAutoFilterItemList	This operation is used to retrieve the filter values and filter date values and their captions in the AutoFilterItemList in the operation response for an AutoFilter in the workbook.
GetChart	This operation is used to return a chart image.
GetHealthScore	This operation is used to return information about the health of the protocol server.
GetImage	This operation is used to return a chart image or embedded image .
GetObjectInformation	This operation returns the range of a published item in a workbook
GetPivotFilterItemList	This operation is used to return child PivotTable members that are part of a PivotTable manual filter hierarchy. This operation is used after calling ConnectAndGetPivotFilterItemList or after calling GetPivotFilterItemList for an ancestor in the hierarchy.
GetPivotMenu	This operation is used to return information about a PivotTable area .
GetPublishedObjects	This operation returns a list of the published items in a workbook.
GetRange	This operation returns information about the workbook as specified in [MS-EXSPXML] .
GetRangeForClipboard	This operation is used to get the number formatted values of visible worksheet cells in a specified range in a workbook.
GetRangeValues	This operation is used to get the values contained in a specified range in a workbook.
GetRangeValuesA1	This operation is used to get the values contained in a specified range in a workbook.
GetSessionInformation	This operation is used to retrieve information about a session (2).
GetSheetNames	The operation returns information about the sheets in a workbook.
GetSlicerItemList	This operation is used to return the slicer items and formatting information for the slicer visual components that are part of a slicer.
GetSparklines	This operation is used to return an image containing sparklines .
GetWorkbook	This operation is used to retrieve a workbook file.
OpenWorkbook	This operation is used to create a new session (2) or to join an existing edit session.
ParseRange	This operation is used to parse a specified range in the workbook.
Recalc	This operation is used to calculate a specified range in the workbook.
RecalcA1	This operation is used to calculate a specified range in the workbook.
RecalcAll	This operation is used to calculate the workbook.
Refresh	This operation is used to refresh connected data on a workbook.

WSDL Operation	Description
RefreshAll	This operation is used to refresh all connected data on a workbook.
RemovePivotFilter	This operation is used to remove any PivotTable filters that are applied to a PivotTable field.
ResizeRowsColumns	This operation is used to set the heights or widths of specified rows (2) or columns (2) in a workbook.
SaveWorkbook	This operation is used to save a workbook associated with an open edit session, to the same location from which it was opened.
SaveWorkbookAs	This operation is used to save a session (2) to a specified location, and in a specified format.
SetCalculationOptions	This operation is used to set the workbook calculation mode .
SetParameters	This operation is used to set 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.
SortFilterColumn	This operation is used to change the sort order (2) of a table or worksheet AutoFilter in the workbook.
TogglePivotDrill	This operation is used to expand or collapse a PivotTable member .

3.1.4.1 ApplyItemFilter

This operation is used to change the filtering of a table or worksheet AutoFilter in the workbook.

```
<wsdl:operation name="ApplyItemFilter">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ApplyItemFilter"
    message="tns:ExcelServiceSoap_ApplyItemFilter_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ApplyItemFilterResponse"
    message="tns:ExcelServiceSoap_ApplyItemFilter_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ApplyItemFilterExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ApplyItemFilter_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

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

- The protocol server MUST set the filter to the **clear all state** if the **values** element is not present, and the **autoFilterDateNodes** element is not present, and the **blanks** element value is

false, and the **hideBlanks** element value is false, and the value of **CriteriaType** element of [AutoFilterOptions](#) is Nil, and the **Criteria** element of [AutoFilterOptions](#) is not present.

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<5>](#) be one of the values specified in [Common list of IDs](#).
- This operation is a state-changing operation on the protocol server.

3.1.4.1.1 Messages

3.1.4.1.1.1 ExcelServiceSoap_ApplyItemFilter_InputMessage

The requested WSDL message for a **ApplyItemFilter** WSDL operation.

The **SOAP action** value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyItemFilter
```

The **SOAP body** contains a **ApplyItemFilter** element.

3.1.4.1.1.2 ExcelServiceSoap_ApplyItemFilter_OutputMessage

The response WSDL message for a **ApplyItemFilter** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyItemFilterResponse
```

The SOAP body contains a **ApplyItemFilterResponse** element.

3.1.4.1.2 Elements

3.1.4.1.2.1 ApplyItemFilter

The input data for a **ApplyItemFilter** WSDL operation.

```
<xs:element name="ApplyItemFilter">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions"/>
      <xs:element minOccurs="0" maxOccurs="1" name="values" type="tns:ArrayOfString"/>
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterDateNodes"
type="tns:ArrayOfAutoFilterDateNodeInfo"/>
      <xs:element minOccurs="1" maxOccurs="1" name="blanks" type="xs:boolean"/>
      <xs:element minOccurs="1" maxOccurs="1" name="hideBlanks" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

autoFilterOptions: The AutoFilter options for filtering the AutoFilter column (2) as specified in [AutoFilterOptions](#). MUST be present.

values: The filter values to use when filtering the AutoFilter column (2). Specifies the values used by the protocol server to filter the AutoFilter with.

- MUST NOT be present if the value of the **CriteriaType** element of AutoFilterOptions is not Nil.
- MUST NOT be present if the **Criteria** element of AutoFilterOptions is present.
- MUST be present if **autoFilterDateNode** element is present.
- If present, the count of elements MUST be greater than or equal to 0 and less than or equal to 1000.
- All **string** elements of [ArrayOfString](#) MUST have a value or be empty.
- The value of the **string** element of ArrayOfString MUST be equal to one of the **DisplayString** element values of [AutoFilterItem](#) in the [AutoFilterItemList](#) of the [GetAutoFilterItemList](#) response.

autoFilterDateNodes: The filter date values to use when filtering the AutoFilter column (2). Specifies the filter date values used by the protocol server to filter the AutoFilter with, as specified in [AutoFilterDateNodeInfo](#).

- MUST NOT be present if the **values** element is not present.
- If present the count of elements MUST be greater than or equal to 0 and less than or equal to 1000.
- The value of the **NodeType** element of AutoFilterDateNodeInfo MUST NOT be Nil.
- If the value of the **NodeType** element of AutoFilterDateNodeInfo is Year, then the value of the **Month** and **Day** elements of AutoFilterDateNodeInfo MUST be 0.
- If the value of the **NodeType** element of AutoFilterDateNodeInfo is Month, then the value of the **Day** element of AutoFilterDateNodeInfo MUST be 0.

blanks: Specifies whether to include blank values in the filter. The value true specifies to include filter blank values in the filter. The value false specifies to exclude filter blank values in the filter. The protocol server MUST ignore this element if the **values** element is not present.

hideBlanks: Specifies whether to hide blank values in the filter. Specifies filtering to include all values but blank values. The value true specifies to include all values but blank values in the filter. The value false MUST be ignored by the protocol server. The protocol client MUST NOT set this element value to true if the values element is present or the **Criteria** element of AutoFilterOptions is present or the value of **CriteriaType** element of AutoFilterOptions is not Nil.

3.1.4.1.2.2 ApplyItemFilterResponse

The result data for a **ApplyItemFilter** WSDL operation.

```
<xs:element name="ApplyItemFilterResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplyItemFilterResult"
        type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

    </xs:sequence>
  </xs:complexType>
</xs:element>

```

ApplyItemFilterResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.2 ApplyPivotFilter

This operation is used to apply a PivotTable custom filter or a PivotTable manual filter on a PivotTable field.

```

<wsdl:operation name="ApplyPivotFilter">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotFilter"
message="tns:ExcelServiceSoap_ApplyPivotFilter_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotFilterResponse"
message="tns:ExcelServiceSoap_ApplyPivotFilter_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotFilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyPivotFilter_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_ApplyPivotFilter_InputMessage** request message and the protocol server responds with an

ExcelServiceSoap_ApplyPivotFilter_OutputMessage response message as follows:

- The protocol client sends the PivotTable custom filter or PivotTable manual filter to be applied, and the information identifying the PivotTable field in the **pivotOperationOptions** element.
- The protocol server applies the PivotTable custom filter or PivotTable manual filter to the PivotTable field.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<6>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.
- This operation is a state changing operation on the protocol server.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL

Id
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.2.1 Messages

3.1.4.2.1.1 ExcelServiceSoap_ApplyPivotFilter_InputMessage

The requested WSDL message for a **ApplyPivotFilter** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyPivotFilter
```

The SOAP body contains a **ApplyPivotFilter** element.

3.1.4.2.1.2 ExcelServiceSoap_ApplyPivotFilter_OutputMessage

The response WSDL message for a **ApplyPivotFilter** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyPivotFilterResponse
```

The SOAP body contains a **ApplyPivotFilterResponse** element.

3.1.4.2.2 Elements

3.1.4.2.2.1 ApplyPivotFilter

The input data for a **ApplyPivotFilter** WSDL operation.

```
<xs:element name="ApplyPivotFilter">
```



```

<xs:complexType>
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable field identification and information about the PivotTable custom filter or PivotTable manual filter to apply. MUST be present. The following MUST extend or override the standard behavior specified in [PivotOperationOptions](#):

- **FilterType:**
 - MUST contain the value **Invalid** if a PivotTable manual filter is applied.
 - Otherwise, it MUST contain one of the values used for PivotTable custom filter as specified in [PivotFilterType](#).
- **DataFieldId:**
 - MUST NOT be present if **FilterType** is not used for PivotTable custom value filter as specified in [PivotFilterType](#).
 - Otherwise, MUST be present and equal to the **IdString** element of one of the **PivotField** elements nested under the **PivotDataFields** element of the **pivotMenu** element returned from the protocol server in the last call to [GetPivotMenu](#).
- **MemberPropertyId:**
 - MUST NOT be present if **FilterType** has the value **Invalid**.
 - Otherwise, it MUST be present and equal to the **IdString** element of one of the **PivotFiled** elements nested under the **MemberProperties** element of the **PivotField** element that is the PivotTable field on which the filter is being applied if this is a member properties PivotTable custom filter, and MUST NOT be present otherwise.
- **FilterValue1:**
 - MUST NOT be present if **FilterType** has the value **Invalid**.
 - Otherwise, it MUST NOT be present if **FilterType** supports zero PivotTable filter parameters as specified in [PivotFilterType](#).
 - Otherwise, it MUST be present and contain the value of the first PivotTable filter parameter.
- **FilterValue2:**
 - MUST NOT be present if **FilterType** has the value **Invalid**.
 - Otherwise, it MUST NOT be present if **FilterType** supports zero or one PivotTable filter parameters as specified in [PivotFilterType](#).
 - Otherwise, it MUST be present and contain the value of the second PivotTable filter parameter.

- **Items:**
 - MUST be present if **FilterType** has the value **Invalid**. MUST contain one or more elements. MUST be equal to the **Id** element of one of the **PivotFilterItem** elements nested under the **itemList** element returned from the protocol server in the last call to [GetPivotFilterItemList](#).
 - Otherwise, MUST NOT be present.

3.1.4.2.2 ApplyPivotFilterResponse

The result data for a **ApplyPivotFilter** WSDL operation.

```
<xs:element name="ApplyPivotFilterResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplyPivotFilterResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ApplyPivotFilterResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.3 ApplyPivotSort

This operation is used to change the sort order (2) of a PivotTable field in the workbook.

```
<wsdl:operation name="ApplyPivotSort">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotSort"
message="tns:ExcelServiceSoap_ApplyPivotSort_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotSortResponse"
message="tns:ExcelServiceSoap_ApplyPivotSort_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotSortExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyPivotSort_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_ApplyPivotSort_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ApplyPivotSort_OutputMessage** response message as follows:

- The protocol client sends the information identifying the PivotTable field in the **pivotOperationOptions** element.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<7>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.3.1 Messages

3.1.4.3.1.1 ExcelServiceSoap_ApplyPivotSort_InputMessage

The requested WSDL message for a **ApplyPivotSort** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyPivotSort
```

The SOAP body contains a **ApplyPivotSort** element.

3.1.4.3.1.2 ExcelServiceSoap_ApplyPivotSort_OutputMessage

The response WSDL message for a **ApplyPivotSort** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyPivotSortResponse
```

The SOAP body contains a **ApplyPivotSortResponse** element.

3.1.4.3.2 Elements

3.1.4.3.2.1 ApplyPivotSort

The input data for a **ApplyPivotSort** WSDL operation.

```
<xs:element name="ApplyPivotSort">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
      <xs:element minOccurs="1" maxOccurs="1" name="ascending" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable field identification as specified in [PivotOperationOptions](#). MUST be present. The following MUST extend or override the standard behavior specified in PivotOperationOptions:

- **SortByValue:**
 - Specifies whether the operation is a sort by value operation. MUST be true when it is a sort by value operation. MUST be false otherwise.
- **DataFieldIndex:**
 - Specified the index of PivotTable data field. MUST be ignored on receipt except when used in a sort by value operation.

ascending: The sort order (2) to apply to the PivotTable field. A true value specifies an ascending order, and a false value specifies a descending order.

3.1.4.3.2.2 ApplyPivotSortResponse

The result data for a **ApplyPivotSort** WSDL operation.

```
<xs:element name="ApplyPivotSortResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplyPivotSortResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ApplyPivotSortResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.4 ApplyPivotTop10Filter

This operation is used to apply a top N filter or a bottom N filter on a PivotTable field.

```
<wsdl:operation name="ApplyPivotTop10Filter">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ApplyPivotTop10Filter"
    message="tns:ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ApplyPivotTop10FilterResponse"
    message="tns:ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ApplyPivotTop10FilterExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ApplyPivotTop10Filter_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage** request message and the protocol server responds with an

ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage response message as follows:

- The protocol client sends the top N filter or bottom N filter to be applied, and the information identifying the PivotTable field in the **pivotOperationOptions** element
- The protocol server applies the top N filter or bottom N filter to the PivotTable field.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<8>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed

Id
InvalidUriOrLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.4.1 Messages

3.1.4.4.1.1 ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage

The requested WSDL message for a **ApplyPivotTop10Filter** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyPivotTop10Filter
```

The SOAP body contains a **ApplyPivotTop10Filter** element.

3.1.4.4.1.2 ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage

The response WSDL message for a **ApplyPivotTop10Filter** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyPivotTop10FilterResponse
```

The SOAP body contains a **ApplyPivotTop10FilterResponse** element.

3.1.4.4.2 Elements

3.1.4.4.2.1 ApplyPivotTop10Filter

The input data for a **ApplyPivotTop10Filter** WSDL operation.

```
<xs:element name="ApplyPivotTop10Filter">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
      <xs:element minOccurs="1" maxOccurs="1" name="top" type="xs:boolean"/>
      <xs:element minOccurs="1" maxOccurs="1" name="value" type="xs:double"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

</xs:element>

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable field identification and information about the top N filter or bottom N filter to be applied. MUST be present. The following MUST extend or override the standard behavior specified in [PivotOperationOptions](#):

- **DataFieldId** MUST be present and equal to the **IdString** element of one of the **PivotField** elements nested under the **PivotDataFields** element of the **pivotMenu** element returned from the protocol server in the last call to [GetPivotMenu](#).
- **FilterType** MUST be one of the following values, as specified in [PivotFilterType](#): **FirstTop10**, **Percent**, **Sum**.

top: Specifies whether a top N filter or a bottom N filter is performed. MUST be set to true to perform a top N filter, and MUST be set to false to perform a bottom N filter.

value: ThePivotTable filter parameter.

- If the value of the **FilterType** element of the **pivotOperationOptions** element is **FirstTop10**, **value** MUST be greater than or equal to 0 and less than or equal to the value of the **Top10MaxItems** element of the **pivotMenu** element returned from the protocol server in the last call to [GetPivotMenu](#).
- If the value of the **FilterType** element of the **pivotOperationOptions** element is **Percent**, **value** MUST be greater than or equal to 0 and less than or equal to 100.
- If the value of the **FilterType** element of the **pivotOperationOptions** element is **Sum**, **value** MUST be greater than or equal to 0.

3.1.4.4.2.2 ApplyPivotTop10FilterResponse

The result data for a **ApplyPivotTop10Filter** WSDL operation.

```
<xs:element name="ApplyPivotTop10FilterResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplyPivotTop10FilterResult"
        type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ApplyPivotTop10FilterResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.5 ApplySlicerSelection

This operation is used to update the state of the slicer items that are part of a slicer.

```
<wsdl:operation name="ApplySlicerSelection">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
```

```

Service/ExcelServiceSoap/ApplySlicerSelection"
message="tns:ExcelServiceSoap_ApplySlicerSelection_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplySlicerSelectionResponse"
message="tns:ExcelServiceSoap_ApplySlicerSelection_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplySlicerSelectionExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplySlicerSelection_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_ApplySlicerSelection_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ApplySlicerSelection_OutputMessage** response message as follows:

- The protocol client sends the information identifying the slicer in the **slicerOptions** element, and the slicer items that will be selected and unselected in **selectedRanges** and **unselectedRanges** elements respectively.
- The protocol server updates the state of the slicer items in the slicer.
- This operation is a state changing operation on the protocol server.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<9>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly

Id
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.5.1 Messages

3.1.4.5.1.1 ExcelServiceSoap_ApplySlicerSelection_InputMessage

The requested WSDL message for a **ApplySlicerSelection** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplySlicerSelection
```

The SOAP body contains a **ApplySlicerSelection** element.

3.1.4.5.1.2 ExcelServiceSoap_ApplySlicerSelection_OutputMessage

The response WSDL message for a **ApplySlicerSelection** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplySlicerSelectionResponse
```

The SOAP body contains a **ApplySlicerSelectionResponse** element.

3.1.4.5.2 Elements

3.1.4.5.2.1 ApplySlicerSelection

The input data for a **ApplySlicerSelection** WSDL operation.

```
<xs:element name="ApplySlicerSelection">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="slicerOptions" type="tns:SlicerOptions"/>
      <xs:element minOccurs="0" maxOccurs="1" name="selectedRanges"
type="tns:ArrayOfSlicerItemRange"/>
      <xs:element minOccurs="0" maxOccurs="1" name="unselectedRanges"
type="tns:ArrayOfSlicerItemRange"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

slicerOptions: The slicer identification. MUST be present. The following elements extend or override the standard behavior specified in [SlicerOptions](#):

- **SlicerItemsCount:**
 - MUST be ignored.
- **SlicerClearItems:**
 - When set to true, specifies that all slicer items in the slicer should be unselected before applying a selection. Otherwise, MUST be ignored by the protocol server.

selectedRanges: An **ArrayOfSlicerItemRange** with the ranges that will be selected during this operation.

unselectedRanges: An **ArrayOfSlicerItemRange** with the ranges that will be unselected during this operation. If **SlicerClearItems** attribute in **SlicerOptions** is true then this value MUST be ignored.

3.1.4.5.2.2 ApplySlicerSelectionResponse

The result data for a **ApplySlicerSelection** WSDL operation.

```
<xs:element name="ApplySlicerSelectionResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplySlicerSelectionResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ApplySlicerSelectionResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.5.3 Complex Types

3.1.4.5.3.1 ArrayOfSlicerItemRange

An ordered list of **SlicerItemRange** elements. These elements are sorted in **ascending order** according to the following rule:

The value of the **End** element of a **SlicerItemRange** element MUST be less than or equal to the value of the **Start** element of the next **SlicerItemRange** element in the list.

```
<xs:complexType name="ArrayOfSlicerItemRange">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="SlicerItemRange" nillable="true"
type="tns:SlicerItemRange"/>
  </xs:sequence>
</xs:complexType>
```

SlicerItemRange: Element with a slicer item range as defined in **SlicerItemRange**.

3.1.4.5.3.2 SlicerItemRange

Specifies a range of indices of slicer items.

```

<xs:complexType name="SlicerItemRange">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Start" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="End" type="xs:int"/>
  </xs:sequence>
</xs:complexType>

```

Start: The index to the first slicer item in the requested range. MUST be greater than or equal to 0.

End: The index to the last slicer item in the requested range. MUST be greater than or equal to **Start**. MUST be less than the total number of slicer items.

3.1.4.6 ApplyTop10Filter

This operation is used to apply a top N filter or a bottom N filter on a column (2) in a worksheet or in a table.

```

<wsdl:operation name="ApplyTop10Filter">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyTop10Filter"
message="tns:ExcelServiceSoap_ApplyTop10Filter_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyTop10FilterResponse"
message="tns:ExcelServiceSoap_ApplyTop10Filter_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyTop10FilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyTop10Filter_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_ApplyTop10Filter_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ApplyTop10Filter_OutputMessage** response message as follows:

- The protocol client MUST NOT call this operation on AutoFilters that have their **DataType** attribute in the **CT_AutoFilters** element (as specified in [\[MS-EXSPXML\]](#) section 2.2.20) present and with a value different from **Number**.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<10>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.6.1 Messages

3.1.4.6.1.1 ExcelServiceSoap_ApplyTop10Filter_InputMessage

The requested WSDL message for a **ApplyTop10Filter** WSDL operation.

The SOAP action value is:

<http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyTop10Filter>

The SOAP body contains a **ApplyTop10Filter** element.

3.1.4.6.1.2 ExcelServiceSoap_ApplyTop10Filter_OutputMessage

The response WSDL message for a **ApplyTop10Filter** method.

The SOAP action value is:

<http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ApplyTop10FilterResponse>

The SOAP body contains a **ApplyTop10FilterResponse** element.

3.1.4.6.2 Elements

3.1.4.6.2.1 ApplyTop10Filter

The input data for a **ApplyTop10Filter** WSDL operation.

```
<xs:element name="ApplyTop10Filter">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions"/>
      <xs:element minOccurs="1" maxOccurs="1" name="top" type="xs:boolean"/>
      <xs:element minOccurs="1" maxOccurs="1" name="percent" type="xs:boolean"/>
      <xs:element minOccurs="1" maxOccurs="1" name="value" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

autoFilterOptions: The options to be used when filtering the AutoFilter column (2). See [AutoFilterOptions](#) for specifications.

- The **CriteriaType** element MUST have the value of Nil.
- The **Criteria** element MUST NOT be present.

top: Specifies whether to apply the top N filter or bottom N filter.

- If true, the protocol server MUST apply a top N filter on the specified column (2).
- If false, the protocol server MUST apply a bottom N filter on the specified column (2).

percent: Specifies whether the top N filter or bottom N filter is based on percentage of the total sum of values in the column (2) or not.

- If true, the protocol server applies a top N filter by percent or a bottom N filter by percent on the specified column (2).

- If false, the protocol server applies a top N filter by count or a bottom N filter by count on the specified column (2).

value: The value to be used when applying the top N filter or bottom N filter.

- If **percent** is true, the value of **value** MUST be greater than or equal to 0 and less than or equal to 100.
- If percent is false, the value of **value** MUST be greater than or equal to 1 and less than or equal to 500.

3.1.4.6.2.2 ApplyTop10FilterResponse

The result data for a **ApplyTop10Filter** WSDL operation.

```
<xs:element name="ApplyTop10FilterResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplyTop10FilterResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ApplyTop10FilterResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.7 CancelRequest

This operation is used to cancel all requests currently running on the protocol server against the session.

```
<wsdl:operation name="CancelRequest">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CancelRequest"
message="tns:ExcelServiceSoap_CancelRequest_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CancelRequestResponse"
message="tns:ExcelServiceSoap_CancelRequest_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CancelRequestExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_CancelRequest_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_CancelRequest_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_CancelRequest_OutputMessage** response message as follows:

- The protocol server tries to cancel all requests currently running on the protocol server against the session specified inside the **parameter** element as specified in [ExcelServiceSoap_CancelRequest_InputMessage](#).

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<11>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.7.1 Messages

3.1.4.7.1.1 ExcelServiceSoap_CancelRequest_InputMessage

The requested WSDL message for a **CancelRequest** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/CancelRequest
```

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

3.1.4.7.1.2 ExcelServiceSoap_CancelRequest_OutputMessage

The response WSDL message for a **CancelRequest** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/CancelRequestResponse
```

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

3.1.4.7.2 Elements

3.1.4.7.2.1 CancelRequest

The input data for a **CancelRequest** WSDL operation.

```
<xs:element name="CancelRequest">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: Common operation parameters. MUST be present.

- The **WorkbookId** element of the **CommandParameter** complex type MUST be present.
- The **WorkOnBehalfRequest** element of the **CommandParameter** complex type MUST be as prescribed in [CommandParameter](#).
- The **RequestSiteId** element of the **CommandParameter** complex type MUST be present.
- All other elements MUST be ignored by the protocol server.

3.1.4.7.2.2 CancelRequestResponse

The result data for a **CancelRequest** WSDL operation.

```
<xs:element name="CancelRequestResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="CancelRequestResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

CancelRequestResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.8 CloseWorkbook

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

```
<wsdl:operation name="CloseWorkbook">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CloseWorkbook"
message="tns:ExcelServiceSoap_CloseWorkbook_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CloseWorkbookResponse"
message="tns:ExcelServiceSoap_CloseWorkbook_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CloseWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_CloseWorkbook_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_CloseWorkbook_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_CloseWorkbook_OutputMessage** response message as follows:

- In the event of an application error on the protocol server during this operation, a soap fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<12>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.8.1 Messages

3.1.4.8.1.1 ExcelServiceSoap_CloseWorkbook_InputMessage

The requested WSDL message for a **CloseWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/CloseWorkbook
```

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

3.1.4.8.1.2 ExcelServiceSoap_CloseWorkbook_OutputMessage

The response WSDL message for a **CloseWorkbook** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/CloseWorkbookResponse
```

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

3.1.4.8.2 Elements

3.1.4.8.2.1 CloseWorkbook

The input data for a **CloseWorkbook** WSDL operation.

```
<xs:element name="CloseWorkbook">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="1" maxOccurs="1" name="forceSync" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: Common operation parameters. MUST be present.

- The **WorkbookId** element of the **CommandParameter** complex type MUST be present.
- The **WorkOnBehalfRequest** element of the **CommandParameter** complex type MUST be as prescribed in [CommandParameter](#).
- All other elements MUST be ignored by the protocol server.

forceSync: Close and leave an edit session. When set to true, if the operation leaves the edit session with no participants, then specifies also closing the session (2). Otherwise or when set to false, specifies leaving the edit session.

- MUST be ignored by the protocol server if the session (2) is not an edit session.

3.1.4.8.2.2 CloseWorkbookResponse

The result data for a **CloseWorkbook** WSDL operation.

```
<xs:element name="CloseWorkbookResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="CloseWorkbookResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```


CloseWorkbookResult: A result as specified in [CommandResult](#). MUST be present.

3.1.4.9 ConnectAndGetPivotFilterItemList

This operation is used to return the PivotTable members that are part of a PivotTable manual filter hierarchy.

```
<wsdl:operation name="ConnectAndGetPivotFilterItemList">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ConnectAndGetPivotFilterItemList"
    message="tns:ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ConnectAndGetPivotFilterItemListResponse"
    message="tns:ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ConnectAndGetPivotFilterItemListExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ConnectAndGetPivotFilterItemList_ExcelServerMessageFault_FaultM
    essage"/>
</wsdl:operation>
```

The protocol client sends an

ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage request message and the protocol server responds with an

ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage response message as follows:

- The protocol client sends the information identifying the PivotTable manual filter in the **pivotOperationOptions** element.
- The protocol server returns the hierarchy of PivotTable members in **itemList**.
 - The **PivotFilterItems** element of **itemList** MUST contain the list of all the PivotTable members at the top hierarchy level of the PivotTable manual filter if there are no more than 1000 such PivotTable members, and MUST contain the first 1000 such PivotTable members if there are more than 1000 such PivotTable members.
 - The **ItemListMaxExceeded** element of **itemList** MUST be set to true if there were more than 1000 PivotTable members at the top hierarchy level of the PivotTable manual filter and MUST be set to false otherwise.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<13>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.9.1 Messages

3.1.4.9.1.1 ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage

The requested WSDL message for a **ConnectAndGetPivotFilterItemList** WSDL operation.

The SOAP action value is:

http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ConnectAndGetPivotFilterItemList

The SOAP body contains a **ConnectAndGetPivotFilterItemList** element.

3.1.4.9.1.2 ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage

The response WSDL message for a **ConnectAndGetPivotFilterItemList** method.

The SOAP action value is:

http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ConnectAndGetPivotFilterItemListResponse

The SOAP body contains a **ConnectAndGetPivotFilterItemListResponse** element.

3.1.4.9.2 Elements

3.1.4.9.2.1 ConnectAndGetPivotFilterItemList

The input data for a **ConnectAndGetPivotFilterItemList** WSDL operation.

```
<xs:element name="ConnectAndGetPivotFilterItemList">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: Contains the location of the manual filter of the PivotTable. MUST be present and MUST NOT have the attribute **xsi:nil** set. The following MUST extend or override the standard behavior specified in [PivotOperationOptions](#):

- **ParentId:** MUST be -1.

3.1.4.9.2.2 ConnectAndGetPivotFilterItemListResponse

The result data for a **ConnectAndGetPivotFilterItemList** WSDL operation.

```
<xs:element name="ConnectAndGetPivotFilterItemListResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ConnectAndGetPivotFilterItemListResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="itemList"
type="tns:PivotFilterItemList"/>
    </xs:sequence>
  </xs:complexType>
```

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

ConnectAndGetPivotFilterItemListResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

itemList: The list of PivotTable members at the top hierarchy level of the PivotTable manual filter. MUST be present.

3.1.4.10 ConnectAndGetSlicerItemList

This operation is used to return the slicer items and formatting information for the slicer visual components that are part of a slicer.

```
<wsdl:operation name="ConnectAndGetSlicerItemList">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ConnectAndGetSlicerItemList"
    message="tns:ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ConnectAndGetSlicerItemListResponse"
    message="tns:ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ConnectAndGetSlicerItemListExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ConnectAndGetSlicerItemList_ExcelServerMessageFault_FaultMessag
    e"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage** response message as follows:

- The protocol client sends the information identifying the slicer in the **slicerOptions** element.
- If the data source for the slicer is OLAP then the protocol server will connect to the **data source (1)** to obtain the requested slicer items. Otherwise the protocol server will behave the same as in [GetSlicerItemList](#).
- The protocol server returns a [SlicerItemList](#) in **itemList**.
 - If the **SlicerItemsOffset** element of the **SlicersOptions** element is equal to -1 then the protocol server will determine the first slicer item in the resulting **itemList** in the following way:
 1. If a call to **ApplySlicerSelection** was made in the current session, then the protocol server will use the value of the **SlicerItemsOffset** element of the **SlicerOptions** element of the last call to **ApplySlicerSelection**.
 2. Otherwise, the protocol server will use the value in the **startItem** attribute in **CT_Slicer** ([\[MS-XLSX\]](#) section 2.6.62).
 - If **SlicerItemsCount** is equal to -1 then the lesser of total number of slicer items or 5 times the visible number of items is returned.

- If **SlicerItemsOffset** is equal to -1 then the protocol server returns a [SlicerFormatElementList](#) in **formatList** that MUST contain 10 elements as specified in [ArrayOfSlicerFormatElement](#). Otherwise the protocol server MUST return a **formatList** with 0 elements.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<14>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.10.1 Messages

3.1.4.10.1.1 ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage

The requested WSDL message for a **ConnectAndGetSlicerItemList** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ConnectAndGetSlicerItemList
```

The SOAP body contains a **ConnectAndGetSlicerItemList** element.

3.1.4.10.1.2 ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage

The response WSDL message for a **ConnectAndGetSlicerItemList** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ConnectAndGetSlicerItemListResponse
```

The SOAP body contains a **ConnectAndGetSlicerItemListResponse** element.

3.1.4.10.2 Elements

3.1.4.10.2.1 ConnectAndGetSlicerItemList

The input data for a **ConnectAndGetSlicerItemList** WSDL operation.

```
<xs:element name="ConnectAndGetSlicerItemList">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="slicerOptions" type="tns:SlicerOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

slicerOptions: The slicer identification. MUST be present. The following MUST extend or override the standard behavior specified in [SlicerOptions](#):

- **SlicerClearItems:**
 - MUST be ignored.

3.1.4.10.2.2 ConnectAndGetSlicerItemListResponse

The result data for a **ConnectAndGetSlicerItemList** WSDL operation.

```
<xs:element name="ConnectAndGetSlicerItemListResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ConnectAndGetSlicerItemListResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="itemList" type="tns:SlicerItemList"/>
      <xs:element minOccurs="0" maxOccurs="1" name="formatList"
type="tns:SlicerFormatElementList"/>
      <xs:element minOccurs="0" maxOccurs="1" name="slicerView" type="tns:SlicerView"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ConnectAndGetSlicerItemListResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

itemList: A **SlicerItemList** as specified in [SlicerItemList](#). MUST be present.

formatList: A **SlicerFormatElementList** as specified in [SlicerFormatElementList](#). MUST be present.

sliderView: A **SlicerView** element as specified in [SlicerView](#). MUST be present.

3.1.4.11 ExpandCollapseOutline

This operation is used to toggle the outline state in the workbook.

```
<wsdl:operation name="ExpandCollapseOutline">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ExpandCollapseOutline"
    message="tns:ExcelServiceSoap_ExpandCollapseOutline_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ExpandCollapseOutlineResponse"
    message="tns:ExcelServiceSoap_ExpandCollapseOutline_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ExpandCollapseOutlineExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ExpandCollapseOutline_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_ExpandCollapseOutline_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ExpandCollapseOutline_OutputMessage** response message as follows:

- The protocol server expands the outline state if the **outline** is in a **collapsed outline state**. The protocol server collapses the outline state if the outline is in an **expanded outline state**.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<15>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.11.1 Messages

3.1.4.11.1.1 ExcelServiceSoap_ExpandCollapseOutline_InputMessage

The requested WSDL message for a **ExpandCollapseOutline** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/ExpandCollapseOutline
```

The SOAP body contains a **ExpandCollapseOutline** element.

3.1.4.11.1.2 ExcelServiceSoap_ExpandCollapseOutline_OutputMessage

The response WSDL message for a **ExpandCollapseOutline** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ExpandCollapseOutlineResponse
```

The SOAP body contains a **ExpandCollapseOutlineResponse** element.

3.1.4.11.2 Elements

3.1.4.11.2.1 ExpandCollapseOutline

The input data for a **ExpandCollapseOutline** WSDL operation.

```
<xs:element name="ExpandCollapseOutline">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetOrNamedRange" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="namedRange" type="xs:boolean"/>
      <xs:element minOccurs="1" maxOccurs="1" name="outlineLevel" type="xs:unsignedByte"/>
      <xs:element minOccurs="1" maxOccurs="1" name="rowColumn" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="row" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

sheetOrNamedRange: The name of the worksheet or named object containing the outline.

- MUST be present.
- MUST NOT be empty.
- If the value of **namedRange** element is true then MUST NOT be longer than 287 characters.
- If the value of **namedRange** element is false then MUST NOT be longer than 31 characters.

namedRange: When set to true, then specifies that the value of the **sheetOrNamedRange** element is a named object name. Otherwise, when set to false specifies a worksheet name.

outlineLevel: The **outline level (2)** to **outline expand** or **outline collapse**. MUST be greater than or equal to 1 and less than or equal to 8.

rowColumn: The zero-based column (2) or row (2) index of the location of the outline.

- MUST be greater than or equal to -1.
- If **row** element value is set to true, MUST be less than or equal to 1048575.
- If **row** element value is set to false, MUST be less than or equal to 16383.
- A value of -1 specifies that all outlines at the value of **outlineLevel** be outline expanded or outline collapsed by the protocol server.
- If **rowColumn** contains a positive value, then:

- If the value of the **row** element is true, then the value of **outlineLevel** element MUST be the value specified for the **outlineLevel** attribute of the **CT_RowAxisItem** element ([\[MS-EXSPXML\]](#) section 2.2.41) that corresponds to row (2) index.
- If the value of the **row** element is false, then the value of **outlineLevel** element MUST be the value specified for the **outlineLevel** attribute of the **CT_ColumnAxisItem** element ([\[MS-EXSPXML\]](#) section 2.2.42) that corresponds to column (2) index.

row: The axis location of the outline specified by the **rowColumn** element. If true the outline is located on a row (2). If false the outline is located on a column (2).

3.1.4.11.2.2 ExpandCollapseOutlineResponse

The result data for a **ExpandCollapseOutline** WSDL operation.

```
<xs:element name="ExpandCollapseOutlineResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ExpandCollapseOutlineResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ExpandCollapseOutlineResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.12 FindRange

This operation is used to find a string inside a workbook.

```
<wsdl:operation name="FindRange">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/FindRange" message="tns:ExcelServiceSoap_FindRange_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/FindRangeResponse"
message="tns:ExcelServiceSoap_FindRange_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/FindRangeExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_FindRange_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_FindRange_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_FindRange_OutputMessage** response message as follows:

- The protocol server searches for the string specified by **searchTerm**.
- The search starts at the adjacent cell of the one specified by **searchAfterCell**, in the direction specified by **searchUp**.
- If the **ObjectName** element in the **VisibleSheetRangeRequest** element in the **parameter** element is not present, the scope of the search is the worksheet specified by the **SheetName**

element in the **searchAfterCell** element. Otherwise, the scope of the search is the named object specified by the **SheetName** element in the **searchAfterCell** element.

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<16>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.12.1 Messages

3.1.4.12.1.1 ExcelServiceSoap_FindRange_InputMessage

The requested WSDL message for a **FindRange** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/FindRange
```

The SOAP body contains a **FindRange** element.

3.1.4.12.1.2 ExcelServiceSoap_FindRange_OutputMessage

The response WSDL message for a **FindRange** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/FindRangeResponse
```

The SOAP body contains a **FindRangeResponse** element.

3.1.4.12.2 Elements

3.1.4.12.2.1 FindRange

The input data for a **FindRange** WSDL operation.

```
<xs:element name="FindRange">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="searchTerm" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="searchUp" type="xs:boolean"/>
      <xs:element minOccurs="0" maxOccurs="1" name="searchAfterCell" type="tns:SheetCell"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in section [CommandParameter](#).

- MUST be present.
- The **VisibleSheetRangeRequest** element MUST be present.

searchTerm: The string to search for in the workbook. MUST be present. MUST NOT be empty. MUST NOT be longer than 255 characters.

searchUp: Specifies the search direction. MUST be present. A value of true specifies to **search up**. A value of false specifies to **search down**.

searchAfterCell: Specifies the starting point of the search. The **SheetName** element of the **SheetCell** complex type:

- MUST be present.
- MUST NOT be empty.
- If **SheetName** is the name of a worksheet then:
 - It MUST NOT be longer than 31 characters.
 - The value of the **SheetName** element of [VisibleSheetRange](#) element in **parameter**, MUST be equal to this value.
- If **SheetName** is not the name of a worksheet then:
 - If the value of the **SheetName** element is longer than 287 characters, then the protocol server MUST return an **ExcelServerMessage** as specified in the [Faults](#) section. The **Id** element of the **ExcelServerMessage** MUST be **InternalError**.
 - The value of the **ObjectName** element of [VisibleSheetRange](#) element in **parameter**, MUST be equal to this value.

3.1.4.12.2.2 FindRangeResponse

The result data for a **FindRange** WSDL operation.

```
<xs:element name="FindRangeResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="FindRangeResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="foundCell" type="tns:SheetCell"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

FindRangeResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

foundCell: A worksheet cell that contains the term specified by the **searchTerm** element. MUST be present. The **SheetName** element of the **SheetCell** complex type MUST NOT be present.

3.1.4.12.3 Complex Types

3.1.4.12.3.1 SheetCell

The **SheetCell** complex type is used to specify a worksheet cell location on a worksheet or on a named object.

```
<xs:complexType name="SheetCell">
```

```

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

```

SheetName: If present, the name of a worksheet or of a named object.

Row: The zero-based row (2) of the location that is being specified, relative to the first row (2) of the worksheet or the named object which are the scope of the search.

- MUST be greater than or equal to -2 and less than or equal to 1048575.
- If the value of **searchUp** element is false, then a negative value specifies to start search from the first row (2) of the worksheet or named object which are the scope of the search.
- If the value of **searchUp** element is true, then a negative value specifies to start search from the last row (2) of the worksheet or named object which are the scope of the search.

Column: The zero-based column (2) of the location that is being specified, relative to the first column of the worksheet or the named object which are the scope of the search.

- MUST be greater than or equal to -2 and less than or equal to 16383.
- If the value of **searchUp** element is false, then a negative value specifies to start search from the first column of the worksheet or named object which are the scope of the search.
- If the value of **searchUp** element is true, then a negative value specifies to start search from the last column of the worksheet or named object which are the scope of the search.

3.1.4.13 GetAutoFilterItemList

This operation is used to retrieve the filter values and filter date values and their captions in the [AutoFilterItemList](#) in the operation response for an AutoFilter in the workbook.

```

<wsdl:operation name="GetAutoFilterItemList">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetAutoFilterItemList"
    message="tns:ExcelServiceSoap_GetAutoFilterItemList_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetAutoFilterItemListResponse"
    message="tns:ExcelServiceSoap_GetAutoFilterItemList_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetAutoFilterItemListExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_GetAutoFilterItemList_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_GetAutoFilterItemList_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetAutoFilterItemList_OutputMessage** response message as follows:

- The protocol server fills the **AutoFilterItems** and **AutoFilterDateNodes** elements with information about the filtering:
- The protocol server adds the filter values that exist in the AutoFilter with their current **filtering state** as specified in [AutoFilterItem](#) and **AutoFilterItems**.
- The protocol server then adds the filter date values that exist in the AutoFilter with their current filtering state as specified in [AutoFilterDateNodeInfo](#) and **AutoFilterDateNodes**. The protocol server also adds the filter date value caption for the **Year, Month, Day, Hour, Minute,** and **Second** elements of the AutoFilterDateNodeInfo as follows:
 - Each unique value of the **Year** element in AutoFilterDateNodeInfo in the **AutoFilterDateNodes** element is added by the protocol server to **YearKeys** element as specified in **YearKeys** element. The protocol server also adds the corresponding caption to **YearValues** as specified in **YearValues** element.
 - Each unique value of the **Month** element in AutoFilterDateNodeInfo in the **AutoFilterDateNodes** element is added by the protocol server to **MonthKeys** element as specified in **MonthKeys** element. The protocol server also adds the corresponding caption to **MonthValues** as specified in **MonthValues** element.
 - Each unique value of the **Day** element in AutoFilterDateNodeInfo in the **AutoFilterDateNodes** element is added by the protocol server to **DayKeys** element as specified in **DayKeys** element. The protocol server also adds the corresponding caption to **DayValues** as specified in **DayValues** element.
 - Each unique value of the **Hour** element in AutoFilterDateNodeInfo in the **AutoFilterDateNodes** element is added by the protocol server to **HourKeys** element as specified in **HourKeys** element. The protocol server also adds the corresponding caption to **HourValues** as specified in **HourValues** element.
 - Each unique value of the **Minute** element in AutoFilterDateNodeInfo in the **AutoFilterDateNodes** element is added by the protocol server to **MinuteKeys** element as specified in **MinuteKeys** element. The protocol server also adds the corresponding caption to **MinuteValues** as specified in **MinuteValues** element.
 - Each unique value of the **Second** element in AutoFilterDateNodeInfo in the **AutoFilterDateNodes** element is added by the protocol server to **SecondKeys** element as specified in **SecondKeys** element. The protocol server also adds the corresponding caption to **SecondValues** as specified in **SecondValues** element.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<17>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.13.1 Messages

3.1.4.13.1.1 ExcelServiceSoap_GetAutoFilterItemList_InputMessage

The requested WSDL message for a **GetAutoFilterItemList** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetAutoFilterItemList
```

The SOAP body contains a **GetAutoFilterItemList** element.

3.1.4.13.1.2 ExcelServiceSoap_GetAutoFilterItemList_OutputMessage

The response WSDL message for a **GetAutoFilterItemList** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetAutoFilterItemListResponse
```

The SOAP body contains a **GetAutoFilterItemListResponse** element.

3.1.4.13.2 Elements

3.1.4.13.2.1 GetAutoFilterItemList

The input data for a **GetAutoFilterItemList** WSDL operation.

```
<xs:element name="GetAutoFilterItemList">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

autoFilterOptions: The options to use when filtering the AutoFilter columns specified in [AutoFilterOptions](#). MUST be present.

3.1.4.13.2.2 GetAutoFilterItemListResponse

The result data for a **GetAutoFilterItemList** WSDL operation.

```
<xs:element name="GetAutoFilterItemListResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetAutoFilterItemListResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterItemList"
type="tns:AutoFilterItemList"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetAutoFilterItemListResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

autoFilterItemList: The filter values, filter date values and blank values filtering state of the AutoFilter as specified in [AutoFilterItemList](#). MUST be present.

3.1.4.13.3 Complex Types

3.1.4.13.3.1 AutoFilterItemList

Specifies the filtering state of an AutoFilter on the protocol server in the [GetAutoFilterItemList](#) response.

```
<xs:complexType name="AutoFilterItemList">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="ShowTime" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ItemListMaxExceeded" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsBlanksSelected" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HasBlanks" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="AutoFilterDateNodes"
type="tns:ArrayOfAutoFilterDateNodeInfo"/>
    <xs:element minOccurs="0" maxOccurs="1" name="AutoFilterItems"
type="tns:ArrayOfAutoFilterItem"/>
    <xs:element minOccurs="0" maxOccurs="1" name="SecondValues" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="SecondKeys" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="MinuteValues" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="MinuteKeys" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HourValues" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HourKeys" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DayValues" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DayKeys" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="MonthValues" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="MonthKeys" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="YearValues" type="tns:ArrayOfAnyType"/>
    <xs:element minOccurs="0" maxOccurs="1" name="YearKeys" type="tns:ArrayOfAnyType"/>
  </xs:sequence>
</xs:complexType>
```

ShowTime: Specifies whether the AutoFilter filtering includes hour, minute and seconds. If the value is true then:

- The protocol client MUST ignore the **Second**, **Hour**, and **Minute** elements of the [AutoFilterDateNodeInfo](#) elements contained in **AutoFilterDateNodes** element.
- The protocol client MUST ignore the **HourValues**, **HourKeys**, **MinuteValues**, **MinuteKeys**, **SecondValues**, and **SecondKeys** elements.

ItemListMaxExceeded: Specifies whether the number of filter values and filter date values in the AutoFilter is larger than 1000. The protocol server MUST set the value to true if it has more than 1000 elements for both the **AutoFilterDateNodes** and **AutoFilterItems** combined.

IsBlanksSelected: Specifies whether the AutoFilter is filtering blank values. The value set to true specifies that the AutoFilter filtering includes blank values, the value set to false specifies that AutoFilter filtering does not include filtering blank values.

- MUST be false if the value of **HasBlanks** element is false.

HasBlanks: Specifies whether the AutoFilter contains a blank value. The value true specifies that blank values exist. The value false specifies that there is no blank value.

AutoFilterDateNodes: A list of filter date values as specified in [ArrayOfAutoFilterDateNodeInfo](#).

- MUST be present.

- If the list contains 0 elements, the protocol client MUST ignore it.
- MUST NOT contain more than 1000 AutoFilterDateNodeInfo elements.
- If the value of **ShowTime** element is false, then for all elements in the **AutoFilterDateNodeInfo** element the filter date values for the **Hour**, **Minute**, and **Second** elements of the AutoFilterDateNodeInfo complex type MUST be set to 0.
- When the protocol client needs to determine the caption for the **Year**, **Month**, **Day**, **Hour**, **Minute** or **Second** elements of AutoFilterDateNodeInfo, it MUST do the following:
 - For the **Year** element value in AutoFilterDateNodeInfo, determine the element index of a matching value in the **YearKeys** element and then access the value at the determined index in the **YearValues** element.
 - For the **Month** element value in AutoFilterDateNodeInfo, determine the element index of a matching value in the **MonthKeys** element, and then access the value at the determined index in the **MonthValues** element.
 - For the **Day** element value in AutoFilterDateNodeInfo, determine the element index of a matching value in the **DayKeys** element and then access the value at the determined index in the **DayValues** element.
 - For the **Hour** element value in AutoFilterDateNodeInfo, determine the element index of a matching value in the **HourKeys** element and then access the value at the determined index in the **HourValues** element.
 - For the **Minute** element value in AutoFilterDateNodeInfo, determine the element index of a matching value in the **MinuteKeys** element and then access the value at the determined index in the **MinuteValues** element.
 - For the **Second** element value in AutoFilterDateNodeInfo, determine the element index of a matching value in the **SecondKeys** element and then access the value at the determined index in the **SecondValues** element.

AutoFilterItems: A list of filter values as specified in [ArrayOfAutoFilterItem](#).

- MUST be present.
- If the list contains 0 elements, the client protocol MUST ignore it.
- MUST NOT contain more than the subtraction of the count of AutoFilterDateNodeInfo in the AutoFilterDateNode element from 1000.

SecondValues: A list of captions corresponding to second filter date values.

- MUST be present.
- The contained elements MUST be of type s:string.
- MUST be formatted in the data culture of the session.
- MUST contain 0 elements if the value of **ShowTime** is false.

SecondKeys: A sorted list of number values that represent seconds.

- MUST be present.

- The contained elements MUST be of type s:short.
- MUST contain the same number of elements that **SecondValues** list contains.
- The elements MUST be sorted by their values in ascending order.
- MUST NOT contain duplicate values.
- The index of each contained element in the list MUST match the index of its corresponding display string value element in **SecondValues** list.

MinuteValues: A list of captions corresponding to minute filter date values.

- MUST be present.
- The contained elements MUST be of type s:string.
- MUST be formatted in the data culture of the session.
- MUST contain 0 elements if the value of **ShowTime** is false.

MinuteKeys: A sorted list of number values that represent minutes.

- MUST be present.
- The contained elements MUST be of type s:short.
- MUST contain the same number of elements that **MinuteValues** list contains.
- The elements MUST be sorted by their values in ascending order.
- MUST NOT contain duplicate values.
- The index of each contained element in the list MUST match the index of its corresponding display string value element in **MinuteValues** list.

HourValues: A list of captions corresponding to hour filter date values.

- MUST be present.
- The contained elements MUST be of type s:string.
- MUST be formatted in the data culture of the session.
- MUST contain 0 elements if the value of **ShowTime** is false.

HourKeys: A sorted list of number values that represent hours.

- MUST be present.
- The contained elements MUST be of type s:short.
- MUST contain the same number of elements that **HourValues** list contains.
- The elements MUST be sorted by their values in ascending order.
- MUST NOT contain duplicate values.
- The index of each contained element in the list MUST match the index of its corresponding display string value element in **HourValues** list.

DayValues: A list of captions corresponding to day filter date values.

- MUST be present.
- The contained elements MUST be of type s:string.
- MUST be formatted in the data culture of the session.

DayKeys: A sorted list of number values that represent days.

- MUST be present.
- The contained elements MUST be of type s:short.
- MUST contain the same number of elements that **DayValues** list contains.
- The elements MUST be sorted by their values in ascending order.
- MUST NOT contain duplicate values.
- The index of each contained element in the list MUST match the index of its corresponding display string value element in **DayValues** list.

MonthValues: A list of captions corresponding to month filter date values.

- MUST be present.
- The contained elements MUST be of type s:string.
- MUST be formatted in the data culture of the session.

MonthKeys: A sorted list of number values that represent months.

- MUST be present.
- The contained elements MUST be of type s:short.
- MUST contain the same number of elements that **MonthValues** list contains.
- The elements MUST be sorted by their values in ascending order.
- MUST NOT contain duplicate values.

The index of each contained element in the list MUST match the index of its corresponding display string value element in **MonthValues** list.

YearValues: A list of caption corresponding to year filter date values.

- MUST be present.
- The contained elements MUST be of type s:string.
- MUST be formatted in the data culture of the session.

YearKeys: A sorted list of number values that represent years.

- MUST be present.
- The contained elements MUST be of type s:short.

- MUST contain the same number of elements that **YearValues** list contains.
- The elements MUST be sorted by their values in ascending order.
- MUST NOT contain duplicate values.
- The index of each contained element in the list MUST match the index of its corresponding display string value element in **YearValues** list.

3.1.4.13.3.2 ArrayOfAutoFilterItem

A list of filter values caption and filtering state.

```
<xs:complexType name="ArrayOfAutoFilterItem">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="AutoFilterItem" nillable="true"
type="tns:AutoFilterItem"/>
  </xs:sequence>
</xs:complexType>
```

AutoFilterItem: A filter value as specified in [AutoFilterItem](#).

3.1.4.13.3.3 AutoFilterItem

Specifies a filter value filtering state and its caption.

```
<xs:complexType name="AutoFilterItem">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Selected" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DisplayString" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Selected: Specifies whether the filter value is included in the filter. A true value specifies that the filter value is included. A false value specifies that the filter value is excluded.

DisplayString: The caption of a filter value. MUST be present. The number of characters MUST be greater than or equal to 1 and less than or equal to 255.

3.1.4.14 GetChart

This operation is used to return a chart image.

```
<wsdl:operation name="GetChart">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetChart" message="tns:ExcelServiceSoap_GetChart_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetChartResponse"
message="tns:ExcelServiceSoap_GetChart_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetChartExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetChart_ExcelServerMessageFault_FaultMessage"/>
```

```
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetChart_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetChart_OutputMessage** response message as follows:

- The protocol server MUST return a chart image as specified in the **getChartInformation** element.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<18>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.14.1 Messages

3.1.4.14.1.1 ExcelServiceSoap_GetChart_InputMessage

The requested WSDL message for a **GetChart** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetChart
```

The SOAP body contains a **GetChart** element.

3.1.4.14.1.2 ExcelServiceSoap_GetChart_OutputMessage

The response WSDL message for a **GetChart** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetChartResponse
```

The SOAP body contains a **GetChartResponse** element.

3.1.4.14.2 Elements

3.1.4.14.2.1 GetChart

The input data for a **GetChart** WSDL operation.

```
<xs:element name="GetChart">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="getChartInformation"
type="tns:GetChartInformation"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

getChartInformation: Specifies which chart to return and its width and height, as specified in section [3.1.4.14.3.1](#). MUST be present.

3.1.4.14.2.2 GetChartResponse

The result data for a **GetChart** WSDL operation.

```
<xs:element name="GetChartResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetChartResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="imageFormatType" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="binaryChartImage"
type="xs:base64Binary"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetChartResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

imageFormatType: The image format type that is present in the **binaryChartImage** field. MUST be the string "x-png".

binaryChartImage: The image of the chart. MUST be present. MUST be in the format specified in [\[RFC2083\]](#).

3.1.4.14.3 Complex Types

3.1.4.14.3.1 GetChartInformation

Additional information about a **GetChart** operation.

```
<xs:complexType name="GetChartInformation">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

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

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

Name: The string identifier for a chart. MUST be present. MUST be non-empty. MUST be the **Name** value specified in **CT_NamedObject** ([\[MS-EXSPXML\]](#) Section [2.2.4](#)).

3.1.4.15 GetHealthScore

This operation is used to return information about the health of the protocol server.

```
<wsdl:operation name="GetHealthScore">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetHealthScore"
    message="tns:ExcelServiceSoap_GetHealthScore_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetHealthScoreResponse"
    message="tns:ExcelServiceSoap_GetHealthScore_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetHealthScoreExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_GetHealthScore_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetHealthScore_InputMessage** and the protocol server responds with an **ExcelServiceSoap_GetHealthScore_OutputMessage** as follows:

- The **CommandResult** returned by the protocol server MUST contain **ServerHealthInformation** as specified in [CommandResult](#) and [ServerHealthInformation](#).
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<19>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.15.1 Messages

3.1.4.15.1.1 ExcelServiceSoap_GetHealthScore_InputMessage

The requested WSDL message for a **GetHealthScore** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/GetHealthScore
```

The SOAP body contains a **GetHealthScore** element.

3.1.4.15.1.2 ExcelServiceSoap_GetHealthScore_OutputMessage

The response WSDL message for a **GetHealthScore** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/GetHealthScoreResponse
```

The SOAP body contains a **GetHealthScoreResponse** element.

3.1.4.15.2 Elements

3.1.4.15.2.1 GetHealthScore

The input data for a **GetHealthScore** WSDL operation.

```
<xs:element name="GetHealthScore">
  <xs:complexType/>
</xs:element>
```

3.1.4.15.2.2 GetHealthScoreResponse

The result data for a **GetHealthScore** WSDL operation.

```
<xs:element name="GetHealthScoreResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetHealthScoreResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetHealthScoreResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.16 GetImage

This operation is used to return a chart image or embedded image.

```
<wsdl:operation name="GetImage">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetImage" message="tns:ExcelServiceSoap_GetImage_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetImageResponse"
message="tns:ExcelServiceSoap_GetImage_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetImageExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetImage_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetImage_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetImage_OutputMessage** response message as follows:

- The protocol server MUST return a chart image or embedded image as specified in the **imageId** element.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<20>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.16.1 Messages

3.1.4.16.1.1 ExcelServiceSoap_GetImage_InputMessage

The requested WSDL message for a **GetImage** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetImage
```

The SOAP body contains a **GetImage** element.

3.1.4.16.1.2 ExcelServiceSoap_GetImage_OutputMessage

The response WSDL message for a **GetImage** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetImageResponse
```

The SOAP body contains a **GetImageResponse** element.

3.1.4.16.2 Elements

3.1.4.16.2.1 GetImage

The input data for a **GetImage** WSDL operation.

```
<xs:element name="GetImage">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="imageId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

imageId: The chart or image identifier.

- MUST be present.
- MUST NOT be empty.
- MUST be the value specified in **CT_Image** element ([\[MS-EXSPXML\]](#) section 2.2.32).

3.1.4.16.2.2 GetImageResponse

The result data for a **GetImage** WSDL operation.

```

<xs:element name="GetImageResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetImageResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="imageFormatType" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="binaryChartImage"
type="xs:base64Binary"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetImageResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

imageFormatType: The image format type that is present in the **binaryChartImage** field. MUST be either the string "x-png" or the string "jpeg".

binaryChartImage: The image of the chart or embedded image. MUST be present.

- If **imageFormatType** is "x-png", MUST be in the format specified in [\[RFC2083\]](#).
- If **imageFormatType** is "jpeg", MUST be in the format specified in [\[JFIF\]](#).

3.1.4.17 GetObjectInformation

This operation returns the range of a published item in a workbook

```

<wsdl:operation name="GetObjectInformation">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetObjectInformation"
message="tns:ExcelServiceSoap_GetObjectInformation_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetObjectInformationResponse"
message="tns:ExcelServiceSoap_GetObjectInformation_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetObjectInformationExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetObjectInformation_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_GetObjectInformation_InputMessage** and the protocol server responds with an **ExcelServiceSoap_GetObjectInformation_OutputMessage** as follows:

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<21>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.17.1 Messages

3.1.4.17.1.1 ExcelServiceSoap_GetObjectInformation_InputMessage

The requested WSDL message for a **GetObjectInformation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetObjectInformation
```

The SOAP body contains a **GetObjectInformation** element.

3.1.4.17.1.2 ExcelServiceSoap_GetObjectInformation_OutputMessage

The response WSDL message for a **GetObjectInformation** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetObjectInformationResponse
```

The SOAP body contains a **GetObjectInformationResponse** element.

3.1.4.17.2 Elements

3.1.4.17.2.1 GetObjectInformation

The input data for a **GetObjectInformation** WSDL operation.

```
<xs:element name="GetObjectInformation">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="objectName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="objectType" type="tns:NamedObjectType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

objectName: The name of the requested published item. MUST be present.

objectType: The type of the published item as specified in [NamedObjectType](#).

3.1.4.17.2.2 GetObjectInformationResponse

The result data for a **GetObjectInformation** WSDL operation.

```
<xs:element name="GetObjectInformationResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetObjectInformationResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="objectInformation"
type="tns:ObjectInformation"/>
    </xs:sequence>
  </xs:complexType>
```

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

GetObjectInformationResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

objectInformation: Information about the requested published item as specified in [ObjectInformation](#). MUST be present.

3.1.4.17.3 Complex Types

3.1.4.17.3.1 ObjectInformation

Specifies the range of a published item.

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

SheetRange: A range in the workbook, as specified in [SheetRange](#). MUST be present.

3.1.4.18 GetPivotFilterItemList

This operation is used to return child PivotTable members that are part of a PivotTable manual filter hierarchy. This operation is used after calling [ConnectAndGetPivotFilterItemList](#) or after calling **GetPivotFilterItemList** for an ancestor in the hierarchy.

```
<wsdl:operation name="GetPivotFilterItemList">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetPivotFilterItemList"
    message="tns:ExcelServiceSoap_GetPivotFilterItemList_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetPivotFilterItemListResponse"
    message="tns:ExcelServiceSoap_GetPivotFilterItemList_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetPivotFilterItemListExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_GetPivotFilterItemList_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetPivotFilterItemList_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetPivotFilterItemList_OutputMessage** response message as follows:

- The protocol client sends the following information in the **pivotOperationOptions** element:
 - The PivotTable manual filter.
 - The PivotTable member that is the common ancestor of all the PivotTable members in the hierarchy to be returned.

- The protocol server returns the PivotTable members in **itemList**.
 - The **PivotFilterItems** element of **itemList** MUST contain the list of all the PivotTable members that are child PivotTable members of the PivotTable member that has an **Id** that is equal to the **ParentId** element of **pivotOperationOptions** if there are no more than 1000 such PivotTable members, and MUST contain the first 1000 such PivotTable members if there are more than 1000 such PivotTable members.
 - The **ItemListMaxExceeded** element of **itemList** MUST be set to true if the PivotTable member who has an **Id** that is equal to the **ParentId** element of **pivotOperationOptions** has more than 1000 child PivotTable members and MUST be set to false otherwise.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<22>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.18.1 Messages

3.1.4.18.1.1 ExcelServiceSoap_GetPivotFilterItemList_InputMessage

The requested WSDL message for a **GetPivotFilterItemList** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetPivotFilterItemList
```

The SOAP body contains a **GetPivotFilterItemList** element.

3.1.4.18.1.2 ExcelServiceSoap_GetPivotFilterItemList_OutputMessage

The response WSDL message for a **GetPivotFilterItemList** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetPivotFilterItemListResponse
```

The SOAP body contains a **GetPivotFilterItemListResponse** element.

3.1.4.18.2 Elements

3.1.4.18.2.1 GetPivotFilterItemList

The input data for a **GetPivotFilterItemList** WSDL operation.

```
<xs:element name="GetPivotFilterItemList">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
    </xs:sequence>
  </xs:complexType>
```

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

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable manual filter location. MUST be present. The following MUST extend or override the standard behavior specified in [PivotOperationOptions](#):

- **ParentId:** MUST be set to the **Id** of the element whose child PivotTable members are to be returned. MUST be equal to the **Id** element of one of the nested **PivotFilterItem** elements returned in the **itemList** element in a previous call to [ConnectAndGetPivotFilterItemList](#) or [GetPivotFilterItemList](#) for the same PivotTable manual filter.

3.1.4.18.2.2 GetPivotFilterItemListResponse

The result data for a **GetPivotFilterItemList** WSDL operation.

```
<xs:element name="GetPivotFilterItemListResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetPivotFilterItemListResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="itemList"
type="tns:PivotFilterItemList"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPivotFilterItemListResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

itemList: The list of child PivotTable members. MUST be present.

3.1.4.19 GetPivotMenu

This operation is used to return information about a PivotTable area.

```
<wsdl:operation name="GetPivotMenu">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotMenu"
message="tns:ExcelServiceSoap_GetPivotMenu_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotMenuResponse"
message="tns:ExcelServiceSoap_GetPivotMenu_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotMenuExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetPivotMenu_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetPivotMenu_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetPivotMenu_OutputMessage** response message as follows:

- The protocol client sends the information identifying the PivotTable area in the **pivotOperationOptions** element.
- The protocol server returns the PivotTable area information in the **pivotMenu** element.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<23>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.19.1 Messages

3.1.4.19.1.1 ExcelServiceSoap_GetPivotMenu_InputMessage

The requested WSDL message for a **GetPivotMenu** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetPivotMenu
```

The SOAP body contains a **GetPivotMenu** element.

3.1.4.19.1.2 ExcelServiceSoap_GetPivotMenu_OutputMessage

The response WSDL message for a **GetPivotMenu** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetPivotMenuResponse
```

The SOAP body contains a **GetPivotMenuResponse** element.

3.1.4.19.2 Elements

3.1.4.19.2.1 GetPivotMenu

The input data for a **GetPivotMenu** WSDL operation.

```
<xs:element name="GetPivotMenu">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable area location. MUST be present. The following MUST extend or override the standard behavior specified in [PivotOperationOptions](#):

- **SourceIndex** MUST be 0
- **FieldId** MUST NOT be present

3.1.4.19.2.2 GetPivotMenuResponse

The result data for a **GetPivotMenu** WSDL operation.

```
<xs:element name="GetPivotMenuResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetPivotMenuResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotMenu" type="tns:PivotMenu"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPivotMenuResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

pivotMenu: The information about the PivotTable area as specified in [PivotMenu](#). MUST be present.

3.1.4.19.3 Complex Types

3.1.4.19.3.1 PivotMenu

The **PivotMenu** type contains information about a PivotTable area that is returned by the protocol server.

```
<xs:complexType name="PivotMenu">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Top10MaxItems" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="AdvancedFiltering" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsPageFilter" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PivotDataItems"
type="tns:ArrayOfPivotField"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PivotDataFields"
type="tns:ArrayOfPivotField"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PivotFields" type="tns:ArrayOfPivotField"/>
  </xs:sequence>
</xs:complexType>
```

Top10MaxItems: The maximum value to be used when applying a top N filter or a bottom N filter as specified in [ApplyTop10Filter](#).

AdvancedFiltering: Specifies whether the protocol server implementation supports PivotTable custom filters for the current PivotTable. MUST be set to true if the protocol server implementation supports PivotTable custom filters for the PivotTable that contains the current PivotTable area, and MUST be set to false otherwise.

IsPageFilter: Specifies whether the PivotTable area is a PivotTable page field filter. MUST be true if the PivotTable area is a PivotTable page field filter. MUST be false if the PivotTable area is not a PivotTable page field filter.

PivotDataItems: The list of PivotTable data fields of the PivotTable. MUST be present. MUST contain the list of all the PivotTable data fields of the PivotTable that contains the PivotTable area, in the same order as they appear in the PivotTable.

PivotDataFields: If the data source (1) for the PivotTable is OLAP then MUST contain all **OLAP measures**. Otherwise, MUST contain the list of all the PivotTable data fields of the PivotTable that contains the PivotTable area, in the same order as they appear in the PivotTable. MUST be present.

PivotFields: The list of PivotTable fields of the PivotTable area. MUST be present. MUST contain the list of all the PivotTable fields in the PivotTable area as follows:

- The first **PivotField** element in the **ArrayOfPivotField** MUST be the first hierarchy PivotTable field.
- The **PivotField** elements following a **PivotField** element in the **ArrayOfPivotField** that is a hierarchy PivotTable field MUST be all the PivotTable fields that belong to that hierarchy PivotTable field, ordered from the highest level PivotTable field to the lowest level PivotTable field.
- The **PivotField** element following a **PivotField** element in the **ArrayOfPivotField** that is the lowest level PivotTable field that belongs to a hierarchy PivotTable field that is not the last hierarchy PivotTable field of the PivotTable area MUST be the next hierarchy PivotTable fields of the PivotTable area.

3.1.4.19.3.2 ArrayOfPivotField

The **ArrayOfPivotField** type contains a list of [PivotField](#) elements.

```
<xs:complexType name="ArrayOfPivotField">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="PivotField" nillable="true"
type="tns:PivotField"/>
  </xs:sequence>
</xs:complexType>
```

PivotField: A **PivotField** element that is a PivotTable field.

3.1.4.19.3.3 PivotField

The **PivotField** type contains information about a PivotTable field.

```
<xs:complexType name="PivotField">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="MemberProperties"
type="tns:ArrayOfPivotField"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PivotFilterParameters"
type="tns:ArrayOfPivotFilterParameter"/>
    <xs:element minOccurs="1" maxOccurs="1" name="SortByValueIndex" type="xs:int"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsNonnumericCaptionFilteringEnabled"
type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsDateFilteringEnabled" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsCaptionFilteringEnabled"
type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsFilteringEnabled" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsDateField" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsDataField" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

```

    <xs:element minOccurs="0" maxOccurs="1" name="FilterParameter"
type="tns:Top10FilterParameter"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsSortedByValue" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsSortedDescending" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsSortedAscending" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HasCustomFilter" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HasManualFilter" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="HasTop10Filter" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsHierarchy" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="IdString" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DisplayString" type="xs:string"/>
  </xs:sequence>
</xs:complexType>

```

MemberProperties: The list of member properties for this PivotTable field:

- MUST be present.
- If **IsDataField** is true, **MemberProperties** MUST contain zero PivotField elements.
- If **IsHierarchy** is true, **MemberProperties** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **MemberProperties** MUST contain zero PivotField elements.
- Otherwise, **MemberProperties** MUST contain the list of all member properties associated with this PivotTable field.

PivotFilterParameters: The PivotTable custom filters applied to this PivotTable field.

- MUST be present.
- MUST have zero **PivotFilterParameter** elements if **HasCustomFilter** is false.
- MUST have one **PivotFilterParameter** elements if **HasCustomFilter** is true.

SortByValueIndex: Specifies the index of a PivotTable data field contained in the **PivotDataItems** element which the PivotTable field is sorted by. If **IsSortedByValue** is false, **SortByValueIndex** MUST be ignored on receipt by the protocol client.

IsNonnumericCaptionFilteringEnabled: Specifies whether certain types of text PivotTable custom label filtering are allowed on this PivotTable field.

- If **IsDataField** is true, **IsNonnumericCaptionFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **IsNonnumericCaptionFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is a sub-element of a **MemberProperties** element, **IsNonnumericCaptionFilteringEnabled** MUST be ignored on receipt by the protocol client.
- Otherwise, **IsNonnumericCaptionFilteringEnabled** MUST be set to true if the following values for **FilterType** are allowed when calling [ApplyPivotFilter](#) for this PivotTable field, and to false if they are not:
 - CaptionBeginsWith

- CaptionDoesNotBeginWith
- CaptionEndsWith
- CaptionDoesNotEndWith
- CaptionContains
- CaptionDoesNotContain

IsDateFilteringEnabled: Specifies whether PivotTable custom label filters are allowed for dates on this PivotTable field:

- If **IsDataField** is true, **IsDateFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **IsDateFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is a sub-element of a **MemberProperties** element, **IsDateFilteringEnabled** MUST be ignored on receipt by the protocol client.
- Otherwise, **IsDateFilteringEnabled** MUST be set to true if the following values for **FilterType** are allowed when calling ApplyPivotFilter for this PivotTable field, and to false if they are not:
 - DateEquals
 - DateOlderThan
 - DateNewerThan
 - DateBetween
 - DateTomorrow
 - DateToday
 - DateYesterday
 - DateNextWeek
 - DateThisWeek
 - DateLastWeek
 - DateNextMonth
 - DateThisMonth
 - DateLastMonth
 - DateNextQuarter
 - DateThisQuarter
 - DateLastQuarter
 - DateNextYear

- DateThisYear
- DateLastYear
- DateYearToDate
- DateAllDatesInPeriodQuarter1
- DateAllDatesInPeriodQuarter2
- DateAllDatesInPeriodQuarter3
- DateAllDatesInPeriodQuarter4
- DateAllDatesInPeriodJanuary
- DateAllDatesInPeriodFebruary
- DateAllDatesInPeriodMarch
- DateAllDatesInPeriodApril
- DateAllDatesInPeriodMay
- DateAllDatesInPeriodJune
- DateAllDatesInPeriodJuly
- DateAllDatesInPeriodAugust
- DateAllDatesInPeriodSeptember
- DateAllDatesInPeriodOctober
- DateAllDatesInPeriodNovember
- DateAllDatesInPeriodDecember
- DateNotEqual
- DateOlderOrEqual
- DateNewerOrEqual
- DateNotBetween

IsCaptionFilteringEnabled: Specifies whether PivotTable custom label filters are allowed for this PivotTable field:

- If **IsDataField** is true, **IsCaptionFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **IsCaptionFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is a sub-element of a **MemberProperties** element, **IsCaptionFilteringEnabled** MUST be ignored on receipt by the protocol client.

- Otherwise, **IsCaptionFilteringEnabled** MUST be set to true if values of **PivotFilterType** that support PivotTable custom label filtering, as specified in [PivotFilterType](#), are allowed when calling `ApplyPivotFilter` for this PivotTable field, and to false if it is not allowed.

IsFilteringEnabled: Specifies whether PivotTable custom filters are allowed for this PivotTable field.

- If **IsDataField** is true, **IsFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **IsFilteringEnabled** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is a sub-element of a **MemberProperties** element, **IsFilteringEnabled** MUST be ignored on receipt by the protocol client.
- Otherwise, **IsFilteringEnabled** MUST be set to true if calls to `ApplyPivotFilter` are allowed for this PivotTable field, and it MUST be set to false otherwise

IsDateField: Specifies whether this PivotTable field is a date:

- If **IsDataField** is true, **IsDateField** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **IsDateField** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is a sub-element of a **MemberProperties** element, **IsDateField** MUST be ignored on receipt by the protocol client .
- Otherwise, **IsDateField** MUST be set to true if the PivotTable field is a date PivotTable field, and to false otherwise.

IsDataField: Specifies whether this PivotTable field is a PivotTable data field:

- If this **PivotField** element is nested inside the **PivotDataFields** element of the [PivotMenu](#), **IsDataField** MUST be set to true.
- If this **PivotField** element is nested inside a **MemberProperties** element, **IsDataField** MUST be set to false.
- If this element is nested inside the **PivotFields** element of the `PivotMenu`, **IsDataField** MUST be set to false.

FilterParameter: The top N filter or bottom N filter for this PivotTable field:

- If **IsDataField** is true, **FilterParameter** MUST NOT be present.
- If **IsHierarchy** is true, **FilterParameter** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **FilterParameter** MUST NOT be present.
- Otherwise, **FilterParameter** MUST NOT be present if **HasTop10Filter** is false and it MUST be present according to the specification in [Top10FilterParameter](#) if **HasTop10Filter** is true.

IsSortedByValue: Specifies whether this PivotTable field is sorted by value:

- If **IsDataField** is false, **IsSortedByValue** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **IsSortedByValue** MUST be ignored on receipt by the protocol client.

- If this **PivotField** element is nested inside a **MemberProperties** element, **IsSortedByValue** MUST be ignored on receipt by the protocol client.
- Otherwise, **IsSortedByValue** MUST be set to true if the PivotTable field is sorted by value, and it MUST be set to false if the PivotTable field is sorted by name or is not sorted.

IsSortedDescending: Specifies whether this PivotTable field is sorted in **descending order**:

- If **IsHierarchy** is true, **IsSortedDescending** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **IsSortedDescending** MUST be ignored on receipt by the protocol client.
- Otherwise, **IsSortedDescending** MUST be set to true if the PivotTable field is sorted in descending order, and it MUST be set to false if the PivotTable field is sorted in ascending order or is not sorted.

IsSortedAscending: Specifies whether this PivotTable field is sorted in ascending order:

- If **IsHierarchy** is true, **IsSortedAscending** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **IsSortedAscending** MUST be ignored on receipt by the protocol client.
- Otherwise, **IsSortedAscending** MUST be set to true if the PivotTable field is sorted in ascending order, and it MUST be set to false if the PivotTable field is sorted in descending order or is not sorted.

HasCustomFilter: Specifies whether there is a PivotTable custom filter applied to this PivotTable field:

- If **HasManualFilter** is true or **HasTop10Filter** is true, **HasCustomFilter** MUST be set to false.
- If **IsDataField** is true, **HasCustomFilter** MUST be false.
- If **IsHierarchy** is true, **HasCustomFilter** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **HasCustomFilter** MUST be ignored on receipt by the protocol client.
- Otherwise, **HasCustomFilter** MUST be set to true if there is a PivotTable custom filter applied to this PivotTable field and it MUST be set to false if there is no PivotTable custom filter applied to this PivotTable field.

HasManualFilter: Specifies whether there is a PivotTable manual filter applied to this PivotTable field:

- If **HasCustomFilter** is true or **HasTop10Filter** is true, **HasManualFilter** MUST be set to false.
- If **IsDataField** is true, **HasManualFilter** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **HasManualFilter** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **HasManualFilter** MUST be ignored on receipt by the protocol client.

- Otherwise, **HasManualFilter** MUST be set to true if there is a PivotTable manual filter applied to this PivotTable field and it MUST be set to false if there is no PivotTable manual filter applied to this PivotTable field.

HasTop10Filter: Specifies whether there is a top N filter or a bottom N filter applied to this PivotTable field:

- If **HasCustomFilter** is true or **HasManualFilter** is true, **HasTop10Filter** MUST be set to false.
- If **IsDataField** is true, **HasTop10Filter** MUST be ignored on receipt by the protocol client.
- If **IsHierarchy** is true, **HasTop10Filter** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **HasTop10Filter** MUST be ignored on receipt by the protocol client.
- Otherwise, **HasTop10Filter** MUST be set to true if the PivotTable field has a top N filter or a bottom N filter set. MUST be set to false if the PivotTable field does not have a top N filter nor a bottom N filter set.

IsHierarchy: Specifies whether this PivotTable field is a hierarchy PivotTable field:

- If **IsDataField** is true, **IsHierarchy** MUST be ignored on receipt by the protocol client.
- If this **PivotField** element is nested inside a **MemberProperties** element, **IsHierarchy** MUST be set to false.
- Otherwise, **IsHierarchy** MUST be set to true if the PivotTable field is a hierarchy PivotTable field, and it MUST be set to false otherwise.

IdString: An identifier for the PivotTable field. MUST be present. MUST NOT be empty.

- If **IsDataField** is true, **IdString** MUST have a unique value among all the **IdString** elements of all the **PivotField** elements of the **PivotDataFields** element of the PivotMenu.
- If this **PivotField** element is nested inside a **MemberProperties** element, **IdString** MUST have a unique value across all the **IdString** elements of all the **PivotField** elements of all the **MemberProperties** elements of all the **PivotField** elements of the **PivotFields** element.
- Otherwise, **IdString** MUST have a unique value among all the **IdString** elements of all the **PivotField** elements of the **PivotFields** element of the PivotMenu that have the same value in the **IsHierarchy** field as this element.

DisplayString: The PivotTable field caption. MUST be present.

3.1.4.19.3.4 ArrayOfPivotFilterParameter

The **ArrayOfPivotFilterParameter** type contains a list of [PivotFilterParameter](#) elements.

```
<xs:complexType name="ArrayOfPivotFilterParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="PivotFilterParameter"
nillable="true" type="tns:PivotFilterParameter"/>
  </xs:sequence>
</xs:complexType>
```

PivotFilterParameter: A PivotFilterParameter in the list.

3.1.4.19.3.5 PivotFilterParameter

The **PivotFilterParameter** type specifies a PivotTable custom filter applied to a PivotTable field.

```
<xs:complexType name="PivotFilterParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="FilterString2" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FilterString1" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="MemberPropertyId" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DataFieldId" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FilterType" type="tns:PivotFilterType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FilterValue2" type="xs:double"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FilterValue1" type="xs:double"/>
  </xs:sequence>
</xs:complexType>
```

FilterString2: The second PivotTable filter parameter, if the filter type supports two PivotTable filter parameters and is used with a PivotTable custom label filter:

- MUST be present.
- MUST be empty and MUST be ignored on receipt by the protocol client when **FilterType** supports zero or one parameters, as specified in [PivotFilterType](#).
- MUST be empty and MUST be ignored on receipt by the protocol client when **FilterType** is used for PivotTable custom value filter as specified in [PivotFilterType](#).
- Otherwise, it MUST contain the value of the second PivotTable filter parameter.

FilterString1: The first PivotTable filter parameter, if the filter type supports one or two PivotTable filter parameters and is used with a PivotTable custom label filter:

- MUST be present.
- MUST be empty and MUST be ignored on receipt by the protocol client when **FilterType** supports zero parameters, as specified in [PivotFilterType](#).
- MUST be empty and MUST be ignored on receipt by the protocol client when **FilterType** is used for PivotTable custom value filter as specified in [PivotFilterType](#).
- Otherwise, it MUST contain the value of the first PivotTable filter parameter.

MemberPropertyId: The identifier of the member property used with a PivotTable custom label filter on a member property.

- MUST be present.
- MUST be empty when **FilterType** is used for PivotTable custom value filter as specified in [PivotFilterType](#).
- MUST be empty when **FilterType** is used for PivotTable custom label filter, as specified in [PivotFilterType](#), but not on a member property.
- When **FilterType** is used with PivotTable custom label filter, as specified in [PivotFilterType](#) on a member property, **MemberPropertyId** MUST be equal to the **IdString** element of one of the **PivotField** elements of one of the **MemberProperties** elements one of the **PivotField** elements of the **PivotFields** element of the **PivotMenu**.

DataFieldId: The identifier of the PivotTable data field used with a PivotTable custom value filter.

- MUST be present.
- MUST be empty when **FilterType** is not used with PivotTable custom value filter as specified in PivotFilterType.
- When **FilterType** is used for PivotTable custom value filter, as specified in PivotFilterType, **DataFieldId** MUST be equal to the **IdString** element of one of the **PivotField** elements of the **PivotDataFields** element of the **PivotMenu**.

FilterType: The type of the filter applied as specified in PivotFilterType. MUST be used with PivotTable custom label filter or with PivotTable custom value filter as specified in PivotFilterType.

FilterValue2: The second PivotTable filter parameter, if the filter type supports two PivotTable filter parameters and is used for PivotTable custom value filter:

- MUST be ignored on receipt by the protocol client when **FilterType** supports zero or one parameters as specified in PivotFilterType.
- MUST be ignored on receipt by the protocol client when **FilterType** is used with PivotTable custom label filter as specified in PivotFilterType.
- Otherwise, it MUST contain the value of the second PivotTable filter parameter.

FilterValue1: The first PivotTable filter parameter, if the filter type supports one or two PivotTable filter parameters and is used for PivotTable custom value filter:

- MUST be ignored on receipt by the protocol client when **FilterType** supports zero parameters, as specified in PivotFilterType.
- MUST be ignored on receipt by the protocol client when **FilterType** is used with PivotTable custom label filter as specified in PivotFilterType.
- Otherwise, it MUST contain the value of the first PivotTable filter parameter.

3.1.4.19.3.6 Top10FilterParameter

The **Top10FilterParameter** type contains information about the top N filter or bottom N filter that is applied to a PivotTable field.

```
<xs:complexType name="Top10FilterParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="DataFieldId" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FilterType" type="tns:Top10FilterType"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FilterValue" type="xs:double"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsTopFilter" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

DataFieldId: The unique identifier of the PivotTable data field to which the top N filter or bottom N filter is applied. MUST be equal to the **IdString** element of one of the **PivotField** elements in the **PivotDataFields** element of the **PivotMenu**.

FilterType: The kind of the top N filter or bottom N filter as specified in [Top10FilterType](#).

FilterValue: The value of the PivotTable filter parameter. If **FilterType** is **Count**, MUST be greater than or equal to 1 and less than or equal to 2147483647. If **FilterType** is **Percent**, MUST be greater than or equal to 0 and less than or equal to 100. If **FilterType** is **Sum**, MUST be greater than or equal to 0.

IsTopFilter: Specifies whether this is a top N filter or a bottom N filter. MUST be true if a top N filter is applied. MUST be false if a bottom N filter is applied.

3.1.4.19.4 Simple Types

3.1.4.19.4.1 Top10FilterType

The **Top10FilterType** type is an enumeration that specifies the type of top N filter or bottom N filter that is applied to a PivotTable field.

```
<xs:simpleType name="Top10FilterType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Invalid"/>
    <xs:enumeration value="Count"/>
    <xs:enumeration value="Percent"/>
    <xs:enumeration value="Sum"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for Top10FilterType:

Value	Meaning
Invalid	This value MUST NOT be used.
Count	A top N filter by count or a bottom N filter by count is applied.
Percent	A top N filter by percent or a bottom N filter by percent is applied.
Sum	A top N filter by sum or a bottom N filter by sum is applied.

3.1.4.20 GetPublishedObjects

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

```
<wsdl:operation name="GetPublishedObjects">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPublishedObjects"
message="tns:ExcelServiceSoap_GetPublishedObjects_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPublishedObjectsResponse"
message="tns:ExcelServiceSoap_GetPublishedObjects_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPublishedObjectsExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetPublishedObjects_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```


The protocol client sends an **ExcelServiceSoap_GetPublishedObjects_InputMessage** and the protocol server responds with an **ExcelServiceSoap_GetPublishedObjects_OutputMessage** as follows:

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<24>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.20.1 Messages

3.1.4.20.1.1 ExcelServiceSoap_GetPublishedObjects_InputMessage

The requested WSDL message for a **GetPublishedObjects** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetPublishedObjects
```

The SOAP body contains a **GetPublishedObjects** element.

3.1.4.20.1.2 ExcelServiceSoap_GetPublishedObjects_OutputMessage

The response WSDL message for a **GetPublishedObjects** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetPublishedObjectsResponse
```

The SOAP body contains a **GetPublishedObjectsResponse** element.

3.1.4.20.2 Elements

3.1.4.20.2.1 GetPublishedObjects

The input data for a **GetPublishedObjects** WSDL operation.

```
<xs:element name="GetPublishedObjects">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="1" maxOccurs="1" name="options"
type="tns:GetPublishedObjectsOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

options: **GetPublishedObjectsOptions** as specified in [GetPublishedObjectsOptions](#).

3.1.4.20.2.2 GetPublishedObjectsResponse

The result data for a **GetPublishedObjects** WSDL operation.

```
<xs:element name="GetPublishedObjectsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetPublishedObjectsResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="publishedObjects"
type="tns:ArrayOfPublishedObjectName"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPublishedObjectsResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

publishedObjects: An array of **PublishedObjectName** elements as specified in [ArrayOfPublishedObjectName](#). MUST be present.

3.1.4.20.3 Complex Types

3.1.4.20.3.1 ArrayOfPublishedObjectName

An array of **PublishedObjectName** elements.

```
<xs:complexType name="ArrayOfPublishedObjectName">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="PublishedObjectName"
nillable="true" type="tns:PublishedObjectName"/>
  </xs:sequence>
</xs:complexType>
```

PublishedObjectName: A **PublishedObjectName** as specified in [PublishedObjectName](#).

3.1.4.20.3.2 PublishedObjectName

Specifies the name and type of a published item.

```
<xs:complexType name="PublishedObjectName">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:NamedObjectType"/>
  </xs:sequence>
</xs:complexType>
```

Name: The name of the published item. MUST be present.

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

3.1.4.20.4 Simple Types

3.1.4.20.4.1 GetPublishedObjectsOptions

Specifies criteria for the published items returned by the protocol server.

```
<xs:simpleType name="GetPublishedObjectsOptions">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="ReturnImplicitPublish"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for GetPublishedObjectsOptions:

Value	Meaning
ReturnImplicitPublish	Specifies that, if the workbook contains no items that have been published explicitly, the list returned from the operation will contain, from each published sheet , the charts from that sheet (1) and the named objects that intersect the used range of that sheet (1). The used range is the smallest range containing all cells that are not empty.

3.1.4.21 GetRange

This operation returns information about the workbook as specified in [\[MS-EXSPXML\]](#).

```
<wsdl:operation name="GetRange">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetRange" message="tns:ExcelServiceSoap_GetRange_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetRangeResponse"
    message="tns:ExcelServiceSoap_GetRange_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/GetRangeExcelServerMessageFault" name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_GetRange_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetRange_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetRange_OutputMessage** response message as follows:

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<25>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
EcsInvalidNamedObject

Id
InvalidSheetName
RangeDefinitionError
RangeParseError
SheetRangeMismatch

3.1.4.21.1 Messages

3.1.4.21.1.1 ExcelServiceSoap_GetRange_InputMessage

The requested WSDL message for a **GetRange** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRange
```

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

3.1.4.21.1.2 ExcelServiceSoap_GetRange_OutputMessage

The response WSDL message for a **GetRange** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeResponse
```

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

3.1.4.21.2 Elements

3.1.4.21.2.1 GetRange

The input data for a **GetRange** WSDL operation.

```
<xs:element name="GetRange">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

3.1.4.21.2.2 GetRangeResponse

The result data for a **GetRange** WSDL operation.

```

<xs:element name="GetRangeResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetRangeResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.22 GetRangeForClipboard

This operation is used to get the number formatted values of visible worksheet cells in a specified range in a workbook.

```

<wsdl:operation name="GetRangeForClipboard">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeForClipboard"
message="tns:ExcelServiceSoap_GetRangeForClipboard_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeForClipboardResponse"
message="tns:ExcelServiceSoap_GetRangeForClipboard_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeForClipboardExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRangeForClipboard_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_GetRangeForClipboard_InputMessage** request message and the protocol server responds with an

ExcelServiceSoap_GetRangeForClipboard_OutputMessage response message as follows:

- The protocol client sends the information identifying the requested range in the **source** element. The protocol server trims the ending empty columns (2) and the ending empty rows (2) in the range.
 - The protocol server will not include trailing columns (2) that do not contain any values.
 - The protocol server will not include trailing rows (2) that do not contain any values.
- Depending on security settings, the protocol server MAY [<26>](#) return a SOAP fault even if the requested range is present in the workbook.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<27>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
InvalidSheetName
RangeDefinitionError

Id
RangeParseError
SheetRangeMismatch

3.1.4.22.1 Messages

3.1.4.22.1.1 ExcelServiceSoap_GetRangeForClipboard_InputMessage

The requested WSDL message for a **GetRangeForClipboard** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeForClipboard
```

The SOAP body contains a **GetRangeForClipboard** element.

3.1.4.22.1.2 ExcelServiceSoap_GetRangeForClipboard_OutputMessage

The response WSDL message for a **GetRangeForClipboard** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeForClipboardResponse
```

The SOAP body contains a **GetRangeForClipboardResponse** element.

3.1.4.22.2 Elements

3.1.4.22.2.1 GetRangeForClipboard

The input data for a **GetRangeForClipboard** WSDL operation.

```
<xs:element name="GetRangeForClipboard">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="source" type="tns:SheetRange"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

source: The range that the protocol client requests data to be fetched from the protocol server. MUST be present.

3.1.4.22.2.2 GetRangeForClipboardResponse

The result data for a **GetRangeForClipboard** WSDL operation.

```

<xs:element name="GetRangeForClipboardResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeForClipboardResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="clipboardString" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetRangeForClipboardResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

clipboardString: The string with the number formatted values for the requested worksheet cells in the workbook. MUST be present.

- For each visible cell the protocol server adds the number formatted value of the cell to the response in the **clipboardString** element.
- If the range contains more than one visible cell in a row (2), then the protocol server MUST include the '\t' character between each of the values for the cells in the response.
- If the range contains more than one visible row (2), then the protocol server MUST include the following string '\r\n' between each visible row (2) in response.
- The length of the value of **clipboardString** MUST be less than or equal to 102400 characters.

3.1.4.23 GetRangeValues

This operation is used to get the values contained in a specified range in a workbook.

```

<wsdl:operation name="GetRangeValues">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValues"
message="tns:ExcelServiceSoap_GetRangeValues_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesResponse"
message="tns:ExcelServiceSoap_GetRangeValues_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRangeValues_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_GetRangeValues_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetRangeValues_OutputMessage** response message as follows:

- Depending on security settings, the protocol server MAY [<28>](#) return a SOAP fault even if the requested range is present in the workbook.
- Each element inside the **cellValues** element MUST be of type **ArrayOfAnyType** and is a row (2) of sheet (2) cells returned from the protocol server. The number of rows (2) returned MUST be equal to the number of rows (2) requested in the **SheetRange** element.

- Each element inside each of the **ArrayOfAnyType** type nested inside **cellValues** 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 **sheetRange** element.
- If **formatted** is true, all sheet (2) cells returned as part of the **cellValues** element MUST be of type **string** and MUST be number formatted according to how the sheet (2) cell is number formatted in the workbook.
- If **formatted** is false:
 - if the sheet (2) cells returned as part of the **cellValues** element is empty, the `xsi:nil` attribute MUST be set to true.
 - If a cell is not empty, then the type returned as part of **cellValues** element for this cell MUST be one of the following types: **boolean**, **double**, **string** or [CellError](#).
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<29>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError
RangeParseError
SheetRangeMismatch

3.1.4.23.1 Messages

3.1.4.23.1.1 ExcelServiceSoap_GetRangeValues_InputMessage

The requested WSDL message for a **GetRangeValues** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeValues
```

The SOAP body contains a **GetRangeValues** element.

3.1.4.23.1.2 ExcelServiceSoap_GetRangeValues_OutputMessage

The response WSDL message for a **GetRangeValues** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeValuesResponse
```


The SOAP body contains a **GetRangeValuesResponse** element.

3.1.4.23.2 Elements

3.1.4.23.2.1 GetRangeValues

The input data for a **GetRangeValues** WSDL operation.

```
<xs:element name="GetRangeValues">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"/>
      <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

sheetRange: The range that the protocol client requests data to be fetched from the protocol server. MUST be present.

formatted: Specifies whether or not the data retrieved is number formatted.

3.1.4.23.2.2 GetRangeValuesResponse

The result data for a **GetRangeValues** WSDL operation.

```
<xs:element name="GetRangeValuesResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeValuesResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="cellValues" type="tns:ArrayOfAnyType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetRangeValuesResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

cellValues: The values returned from the protocol server. MUST be present.

3.1.4.24 GetRangeValuesA1

This operation is used to get the values contained in a specified range in a workbook.

```
<wsdl:operation name="GetRangeValuesA1">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesA1"
message="tns:ExcelServiceSoap_GetRangeValuesA1_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
```

```

Service/ExcelServiceSoap/GetRangeValuesA1Response"
message="tns:ExcelServiceSoap_GetRangeValuesA1_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesA1ExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRangeValuesA1_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_GetRangeValuesA1_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetRangeValuesA1_OutputMessage** response message as follows:

- If **sheetName** is not present, the protocol server MUST return a SOAP fault. The **Id** element of the **ExcelServerMessage** MUST be **InternalError**.
- Depending on security settings, the protocol server MAY [<30>](#) return a SOAP fault even if the requested range is present in the workbook.
- Each element inside the **rangeRequests** element MUST be of type **RangeValuesA1** as specified in [RangeValuesA1](#). The number of elements MUST be equal to the number of named ranges that the protocol client tries to get values from.
- For each named range, The protocol server determines the range to return in the following manner:
 - If **sheetName** is empty and the protocol server cannot determine the sheet (1) from the **rangeName** element, the protocol server MUST return the requested values from the range specified in **rangeName** on the first sheet (1).
 - If **sheetName** is empty and the protocol server can determine the sheet (1) from the **rangeName** element, the protocol server MUST return the requested values from the range specified in **rangeName** on the determined sheet (1).
 - If **sheetName** is not empty and exists in the workbook, the protocol MUST return the range specified in **rangeName** from the sheet (1) that is specified in **sheetName**.
 - If **sheetName** is not empty and does not reference an existing sheet (1) in the workbook, the protocol server MUST return a SOAP fault. The **Id** element of the **ExcelServerMessage** MUST be **InvalidSheetName**.
- If **formatted** is true, all worksheet cells returned as part of the **Values** element in the **RangeValuesA1** element MUST be of type **string** and MUST be number formatted according to how the sheet cell is number formatted in the workbook.
- If **formatted** is false:
 - If the sheet (2) cells returned as part of the **Values** element in the **RangeValuesA1** element is empty, the **xsi:nil** attribute MUST be set to true.
 - If a cell is not empty, it MUST be one of the following types: **boolean**, **double**, **string** or [CellError](#).
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<31>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError
RangeParseError
SheetRangeMismatch

3.1.4.24.1 Messages

3.1.4.24.1.1 ExcelServiceSoap_GetRangeValuesA1_InputMessage

The requested WSDL message for a **GetRangeValuesA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeValuesA1
```

The SOAP body contains a **GetRangeValuesA1** element.

3.1.4.24.1.2 ExcelServiceSoap_GetRangeValuesA1_OutputMessage

The response WSDL message for a **GetRangeValuesA1** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetRangeValuesA1Response
```

The SOAP body contains a **GetRangeValuesA1Response** element.

3.1.4.24.2 Elements

3.1.4.24.2.1 GetRangeValuesA1

The input data for a **GetRangeValuesA1** WSDL operation.

```
<xs:element name="GetRangeValuesA1">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeRequests"
type="tns:ArrayOfRangeValuesA1"/>
      <xs:element minOccurs="1" maxOccurs="1" name="formatting" type="tns:CellDataFormat"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

rangeRequests: An array of **RangeValuesA1** elements that specifies the named range that the protocol client requests data to be fetched from the protocol server. **MUST** be present

formatting: Specifies whether or not the data retrieved is number formatted. This element **MUST** be true if the values need to be **number formatted** and false if the values do not need to be number formatted.

3.1.4.24.2.2 GetRangeValuesA1Response

The result data for a **GetRangeValuesA1** WSDL operation.

```
<xs:element name="GetRangeValuesA1Response">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeValuesA1Result"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeRequests"
type="tns:ArrayOfRangeValuesA1"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetRangeValuesA1Result: A **CommandResult** as specified in [CommandResult](#). **MUST** be present.

rangeRequests: An array of **RangeValuesA1** elements that contains the values retrieved from the protocol server.

3.1.4.24.3 Simple Types

3.1.4.24.3.1 CellDataFormat

Specifies a list of enumeration values where the retrieved **cell values** need to be number formatted.

- If the value **Compound** is used, the formatted element **MUST** also use both the values **Formatted** and **Unformatted**.
- If the value **Compound** is not used, the formatted element **MUST** use either the value **Formatted** or **Unformatted**.

```
<xs:simpleType name="CellDataFormat">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="Formatted"/>
        <xs:enumeration value="Unformatted"/>
        <xs:enumeration value="Compound"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for CellDataFormat:

Value	Meaning
Formatted	Specifies that the retrieved cell values MUST be number formatted.
Unformatted	Specifies that the retrieved cell values MUST NOT be number formatted.
Compound	Specifies that the retrieved cell values MUST be of type CellCompoundValue as specified in CellCompoundValue .

3.1.4.25 GetSessionInformation

This operation is used to retrieve information about a session (2).

```
<wsdl:operation name="GetSessionInformation">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSessionInformation"
message="tns:ExcelServiceSoap_GetSessionInformation_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSessionInformationResponse"
message="tns:ExcelServiceSoap_GetSessionInformation_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSessionInformationExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSessionInformation_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends a **ExcelServiceSoap_GetSessionInformation_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetSessionInformation_OutputMessage** as follows:

- The protocol server MUST return the UI culture and the data culture for the specified session. These are the languages specified in the [OpenWorkbook](#) operation or the languages that the protocol server falls back to as specified in [OpenWorkbook](#).
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<32>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.25.1 Messages

3.1.4.25.1.1 ExcelServiceSoap_GetSessionInformation_InputMessage

The requested WSDL message for a **GetSessionInformation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/GetSessionInformation
```

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

3.1.4.25.1.2 ExcelServiceSoap_GetSessionInformation_OutputMessage

The response WSDL message for a **GetSessionInformation** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSessionInformationResponse
```

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

3.1.4.25.2 Elements

3.1.4.25.2.1 GetSessionInformation

The input data for a **GetSessionInformation** WSDL operation.

```
<xs:element name="GetSessionInformation">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present. The following MUST extend or override the standard behavior specified in **CommandParameter**:

- **StateId** MUST be -1.
- **ProtocolClientId** value MUST be "ms-soap".

3.1.4.25.2.2 GetSessionInformationResponse

The result data for a **GetSessionInformation** WSDL operation.

```
<xs:element name="GetSessionInformationResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetSessionInformationResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="serverVersion" 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>
```

GetSessionInformationResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

serverVersion: The version of the protocol server. MUST be present. MAY [<33>](#) contain any string value.

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

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

3.1.4.26 GetSheetNames

The operation returns information about the sheets in a workbook.

```
<wsdl:operation name="GetSheetNames">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSheetNames"
    message="tns:ExcelServiceSoap_GetSheetNames_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSheetNamesResponse"
    message="tns:ExcelServiceSoap_GetSheetNames_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSheetNamesExcelServerMessageFault" name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_GetSheetNames_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetSheetNames_InputMessage** and the protocol server responds with an **ExcelServiceSoap_GetSheetNames_OutputMessage** 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 in the workbook.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<34>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.26.1 Messages

3.1.4.26.1.1 ExcelServiceSoap_GetSheetNames_InputMessage

The requested WSDL message for a **GetSheetNames** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSheetNames
```

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

3.1.4.26.1.2 ExcelServiceSoap_GetSheetNames_OutputMessage

The response WSDL message for a **GetSheetNames** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/Webservices/ExcelServerInternalService/ExcelServiceSoap/GetSheetNamesResponse
```

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

3.1.4.26.2 Elements

3.1.4.26.2.1 GetSheetNames

The input data for a **GetSheetNames** WSDL operation.

```
<xs:element name="GetSheetNames">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

3.1.4.26.2.2 GetSheetNamesResponse

The result data for a **GetSheetNames** WSDL operation.

```
<xs:element name="GetSheetNamesResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetSheetNamesResult"
        type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetNames" type="tns:ArrayOfSheetName"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetSheetNamesResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

sheetNames: An array of **SheetName** elements as specified in [ArrayOfSheetName](#). MUST be present.

3.1.4.26.3 Complex Types

3.1.4.26.3.1 ArrayOfSheetName

An array of **SheetName** elements.

```
<xs:complexType name="ArrayOfSheetName">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="SheetName" nillable="true"
      type="tns:SheetName"/>
  </xs:sequence>
```



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

SheetName: A **SheetName** as specified in [SheetName](#).

3.1.4.26.3.2 SheetName

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

```
<xs:complexType name="SheetName">
  <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 [SheetType](#).

Visibility: The visible condition of a sheet (1) as specified in [SheetVisibility](#).

3.1.4.26.4 Simple Types

3.1.4.26.4.1 SheetType

Specifies the type of a sheet (1).

```
<xs:simpleType name="SheetType">
  <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 SheetType:

Value	Meaning
Worksheet	A worksheet.
Chartsheet	A chart sheet .

3.1.4.26.4.2 SheetVisibility

Specifies the visible condition of a sheet (1).

```
<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>
```

The following table specifies the allowable values for SheetVisibility:

Value	Meaning
Visible	Specifies that the sheet (1) is visible.
Hidden	Specifies that the sheet (1) is hidden .
VeryHidden	Specifies that the sheet (1) is hidden but cannot be set to visible.

3.1.4.27 GetSlicerItemList

This operation is used to return the slicer items and formatting information for the slicer visual components that are part of a slicer.

```
<wsdl:operation name="GetSlicerItemList">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSlicerItemList"
message="tns:ExcelServiceSoap_GetSlicerItemList_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSlicerItemListResponse"
message="tns:ExcelServiceSoap_GetSlicerItemList_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSlicerItemListExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSlicerItemList_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetSlicerItemList_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetSlicerItemList_OutputMessage** response message as follows:

- The protocol server returns a [SlicerItemList](#) in **itemList**.
 - If the **SlicerItemsCount** element in [SlicerOptions](#) is greater than or equal to 0 and less than or equal to the total number of slicer items, the **SlicerItems** element of **itemList** MUST contain a list with a number of [SlicerItem](#) elements equal to the **SlicerItemsCount** element in SlicerOptions.
 - If **SlicerItemsCount** element of SlicerOptions is greater than the total number of slicer items, then the **SlicerItems** element of **itemList** MUST contain a list with all slicer items starting at **SlicerItemsOffset**.
 - If **SlicerItemsOffset** is greater than or equal to 0 then the list of elements in **itemList** MUST begin at **SlicerItemsOffset**.
 - If **SlicerItemsOffset** is equal to -1 then the protocol server will determine the first slicer item in the resulting **itemList** in the following way:

1. If a call to **ApplySlicerSelection** was made in the current session, then the protocol server will use the value of the **SlicerItemsOffset** element of the **SlicerOptions** element of the last call to **ApplySlicerSelection**.
2. Otherwise, the protocol server will use the value in the **startItem** attribute in **CT_Slicer** ([MS-XLSX] section 2.6.62).
 - If the sum of **SlicerItemsOffset** and **SlicerItemsCount** is greater than the number of slicer items then **itemList** MUST be empty.
 - If **SlicerItemsCount** is equal to -1 then the lesser of total number of items or 5 times the visible number of items is returned.
 - If **SlicerItemsOffset** is equal to -1 then the protocol server returns a [SlicerFormatElementList](#) in **formatList** that MUST contain 10 elements as specified in [ArrayOfSlicerFormatElement](#). Otherwise the protocol server MUST return a **formatList** with 0 elements.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<35>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.27.1 Messages

3.1.4.27.1.1 ExcelServiceSoap_GetSlicerItemList_InputMessage

The requested WSDL message for a **GetSlicerItemList** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSlicerItemList
```

The SOAP body contains a **GetSlicerItemList** element.

3.1.4.27.1.2 ExcelServiceSoap_GetSlicerItemList_OutputMessage

The response WSDL message for a **GetSlicerItemList** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetSlicerItemListResponse
```

The SOAP body contains a **GetSlicerItemListResponse** element.

3.1.4.27.2 Elements

3.1.4.27.2.1 GetSlicerItemList

The input data for a **GetSlicerItemList** WSDL operation.

```
<xs:element name="GetSlicerItemList">
  <xs:complexType>
    <xs:sequence>
```

```

    <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    <xs:element minOccurs="0" maxOccurs="1" name="slicerOptions" type="tns:SlicerOptions"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

slicerOptions: The slicer identification. MUST be present. The following MUST extend or override the standard behavior specified in [SlicerOptions](#):

- **SlicerClearItems:**
 - MUST be ignored.

3.1.4.27.2.2 GetSlicerItemListResponse

The result data for a **GetSlicerItemList** WSDL operation.

```

<xs:element name="GetSlicerItemListResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetSlicerItemListResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="itemList" type="tns:SlicerItemList"/>
      <xs:element minOccurs="0" maxOccurs="1" name="formatList"
type="tns:SlicerFormatElementList"/>
      <xs:element minOccurs="0" maxOccurs="1" name="slicerView" type="tns:SlicerView"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetSlicerItemListResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

itemList: A **SlicerItemList** as specified in [SlicerItemList](#). MUST be present.

formatList: A **SlicerFormatElementList** as specified in [SlicerFormatElementList](#). MUST be present.

slicerView: A **SlicerView** element as specified in [SlicerView](#). MUST be present.

3.1.4.28 GetSparklines

This operation is used to return an image containing sparklines.

```

<wsdl:operation name="GetSparklines">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSparklines"
message="tns:ExcelServiceSoap_GetSparklines_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSparklinesResponse"
message="tns:ExcelServiceSoap_GetSparklines_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal

```

```
Service/ExcelServiceSoap/GetSparklinesExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSparklines_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_GetSparklines_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_GetSparklines_OutputMessage** response message as follows:

- The protocol server MUST return an image containing all sparklines residing in the range specified in the **VisibleSheetRangeRequest** of the **parameter** element.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<36>](#) be one of the values specified in [Common list of IDs](#)

3.1.4.28.1 Messages

3.1.4.28.1.1 ExcelServiceSoap_GetSparklines_InputMessage

The requested WSDL message for a **GetSparklines** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/GetSparklines
```

The SOAP body contains a **GetSparklines** element.

3.1.4.28.1.2 ExcelServiceSoap_GetSparklines_OutputMessage

The response WSDL message for a **GetSparklines** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/GetSparklinesResponse
```

The SOAP body contains a **GetSparklinesResponse** element.

3.1.4.28.2 Elements

3.1.4.28.2.1 GetSparklines

The input data for a **GetSparklines** WSDL operation.

```
<xs:element name="GetSparklines">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

- The **VisibleSheetRangeRequest** element MUST be present.

3.1.4.28.2.2 GetSparklinesResponse

The result data for a **GetSparklines** WSDL operation.

```
<xs:element name="GetSparklinesResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetSparklinesResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="imageFormatType" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="binarySparklineImage"
type="xs:base64Binary"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetSparklinesResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

imageFormatType: The image format type that is present in the **binarySparklineImage** field. MUST be the string "x-png".

binarySparklineImage: The image of the sparklines. MUST be present. MUST be in the format specified in [RFC2083](#).

3.1.4.29 GetWorkbook

This operation is used to retrieve a workbook file.

```
<wsdl:operation name="GetWorkbook">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetWorkbook"
message="tns:ExcelServiceSoap_GetWorkbook_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetWorkbookResponse"
message="tns:ExcelServiceSoap_GetWorkbook_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetWorkbook_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

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

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<37>](#) be one of the values specified in [Common list of IDs](#).

- If **workbookType** is **FullWorkbook** or **FullSnapshot**, and the user does not have Open Item permission, the protocol server returns an **ExcelServerMessage** with **Id** set to **EcsSnapshotAccessDenied**.

3.1.4.29.1 Messages

3.1.4.29.1.1 ExcelServiceSoap_GetWorkbook_InputMessage

The requested WSDL message for a **GetWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetWorkbook
```

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

3.1.4.29.1.2 ExcelServiceSoap_GetWorkbook_OutputMessage

The response WSDL message for a **GetWorkbook** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetWorkbookResponse
```

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

3.1.4.29.2 Elements

3.1.4.29.2.1 GetWorkbook

The input data for a **GetWorkbook** WSDL operation.

```
<xs:element name="GetWorkbook">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="1" maxOccurs="1" name="workbookType" type="tns:WorkbookType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present. The following MUST extend or override the standard behavior specified in [CommandParameter](#).

- **StateId** MUST be -1.

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

3.1.4.29.2.2 GetWorkbookResponse

The result data for a **GetWorkbook** WSDL operation.

```

<xs:element name="GetWorkbookResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetWorkbookResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="bits" type="xs:base64Binary"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

GetWorkbookResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

bits: A workbook file. MUST be present.

3.1.4.30 OpenWorkbook

This operation is used to create a new session (2) or to join an existing edit session.

```

<wsdl:operation name="OpenWorkbook">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/OpenWorkbook"
message="tns:ExcelServiceSoap_OpenWorkbook_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/OpenWorkbookResponse"
message="tns:ExcelServiceSoap_OpenWorkbook_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/OpenWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_OpenWorkbook_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_OpenWorkbook_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_OpenWorkbook_OutputMessage** response message as follows:

- If **flags** does not have any values set, a new view session will be created by the protocol server.
- If **flags** does not contain the **NewWorkbook** value:
 - The workbook **file**, specified by **url**, is specified as follows:
 - It SHOULD be in a format specified by [\[MS-XLSB\]](#), [\[MS-OFFMACRO2\]](#), [\[ISO/IEC-29500-1\]](#) but MAY be in any other format.
 - If it is in the [\[ISO/IEC-29500-1\]](#) or in the [\[MS-OFFMACRO2\]](#) formats:
 - It MAY [<38>](#) contain any valid SpreadsheetML records in that format.
 - If an **odcFile** attribute of a **connection** element ([\[ISO/IEC-29500-1\]](#), Part 4, Section 3.13.1) is present it SHOULD be the path of a file in the format specified by [\[MS-ODCFF\]](#).
 - If a **connection** attribute of **dbPr** element ([\[ISO/IEC-29500-1\]](#), Part 4, Section 3.13.3) is present it SHOULD be in the format specified by [\[MS-ODBCSTR\]](#) or [\[MS-OLEDBSTR\]](#).

- If it is in the [MS-XLSB] format:
 - It MAY <39> contain any valid records in that format.
 - 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].
 - If a **BrBeginECDBProps** record is present, its **stConn** field SHOULD be in the format specified by [MS-ODBCSTR] or [MS-OLEDBSTR].
- If a file in [MS-ODCFF] is referenced by the workbook file:
 - **SourceFile** element of **OfficeDataConnection** ([MS-ODCFF], Section [2.7.1.1](#)) MUST NOT be present.
 - **Parameter** elements of **CT_Connection** [MS-ODCFF], Section [2.2.1](#)) MUST be ignored.
- If the operation succeeds, the protocol server MUST return the session identifier (2) of the newly created or joined session in the response message, to be used in any future operations against the newly created session.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD <40> be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
FileOpenNotFound
FileOpenAccessDenied
FileCorrupt
DclNotTrusted
EcsInvalidNamedObject
EditModeCannotAcquireLock
EditModeCannotEditNonSharePointWorkbook
EditModeWorkbookCheckedOutRequired
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly

Id
ExternalDataRefreshFailedReal
FileCorrupt
FileOpenAccessDenied
FileOpenNotFound
FileOpenSecuritySettings
GenericFileOpenError
IncorrectAuthUsed
InvalidSheetName
InvalidUriOrLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
OpenWorkbookAccessDenied
OpenWorkbookLocationNotTrusted
OpenWorkbookTooLarge
ParameterInvalid
ParameterLimitExceeded
RangeDefinitionError
RangeParseError
SheetRangeMismatch
UnattendedAccountNotConfigured
WorkbookNotSupported
WorkbookNotSupportedViewRight

3.1.4.30.1 Messages

3.1.4.30.1.1 ExcelServiceSoap_OpenWorkbook_InputMessage

The requested WSDL message for a **OpenWorkbook** WSDL operation.

The SOAP action value is:

<http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/OpenWorkbook>

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

3.1.4.30.1.2 ExcelServiceSoap_OpenWorkbook_OutputMessage

The response WSDL message for a **OpenWorkbook** method.

The SOAP action value is:

<http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/OpenWorkbookResponse>

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

3.1.4.30.2 Elements

3.1.4.30.2.1 OpenWorkbook

The input data for a **OpenWorkbook** WSDL operation.

```
<xs:element name="OpenWorkbook">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="url" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="flags" type="tns:OpenWorkbookFlags"/>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="cultureParameter"
type="tns:CultureCommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="subscriberId" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

- **url:** If **flags** does not contain the **NewWorkbook** value, the location of the workbook file. Otherwise, the **trusted location (1)** of the new workbook session. **MUST** be present.
- If the specified value is not a URI (Uniform Resource Identifier) as specified in [\[RFC2396\]](#), or a **Universal Naming Convention (UNC)**, the protocol server **MUST** return an **ExcelServerMessage** as specified in the [Faults](#) section, with the value of the **Id** element of the **ExcelServerMessage** set to:
 - **FileOpenNotFound**, if **flags** does not contain the **NewWorkbook** value.
 - **NewWorkbookInvalidLocation**, if **flags** contains the **NewWorkbook** value.
- The protocol server ignores the number sign ('#') and fragment, as specified in [\[RFC3986\]](#).

flags: Control flags as specified in [OpenWorkbookFlags](#).

parameter: A **CommandParameter** as specified in [CommandParameter](#). **MUST** be present.

cultureParameter: UI culture, data culture and **host data language** related information. MUST be present.

subscriberId: The site identifier. MUST be equal to the value of **RequestSiteId** passed in **parameter**.

3.1.4.30.2.2 OpenWorkbookResponse

The result data for a **OpenWorkbook** WSDL operation.

```
<xs:element name="OpenWorkbookResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="workbookId" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="outFlags"
type="tns:OpenWorkbookOutFlags"/>
      <xs:element minOccurs="0" maxOccurs="1" name="outParameters"
type="tns:OpenWorkbookOutParameters"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

OpenWorkbookResult: A result as specified in [CommandResult](#). MUST be present.

workbookId: The session identifier (2) of the newly created or joined session. MUST be present.

outFlags: Output flags, as specified in [OpenWorkbookOutFlags](#). MUST be present.

outParameters: Out parameters, as specified in [OpenWorkbookOutParameters](#). MUST be present.

3.1.4.30.3 Complex Types

3.1.4.30.3.1 CultureCommandParameter

The **CultureCommandParameter** is used to specify UI culture, data culture and host data language related information when creating a new session.

```
<xs:complexType name="CultureCommandParameter">
  <xs:sequence>
    <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="0" maxOccurs="1" name="SharePointDataCultureName"
type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="TimeZoneSerialization" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

UICultureName: A language tag as specified in [RFC1766](#), section 2. Specifies the UI culture.

- MUST be present.
- MUST NOT be empty.
- MUST NOT be longer than 32768 characters.

- If the language represented by **UICultureName** is unsupported on the protocol server, the protocol server MAY [<41>](#) fall back to some other supported language.

DataCultureName: A language tag as specified in [\[RFC1766\]](#), section 2. Specifies the data culture.

- MUST be present.
- MUST NOT be empty.
- MUST NOT be longer than 32768 characters.
- The protocol server uses **SharePointDataCultureName** as a **fallback data culture** if **DataCultureName** is not supported.

SharePointDataCultureName: A language tag as specified in [\[RFC1766\]](#), section 2. Specifies the host data language.

- MUST be present.
- MUST NOT be longer than 32768 characters.

TimeZoneSerialization: The time zone of the session. MUST be present. MUST be exactly 73 characters long. MUST have the following layout, which is specified using ABNF, as specified in [\[RFC2234\]](#):

TimeZone	=	Bias "#" StandardDate "#" StandardBias "#" DaylightDate "#" DaylightBias
Bias	=	"+"\"-" 4DIGIT
StandardDate	=	Date %d84 Time
StandardBias	=	"+"\"-" 4DIGIT
DaylightDate	=	Date %d84 Time
DaylightBias	=	"+"\"-" 4DIGIT
Date	=	Year "-" Month "-" DayOfWeek "-" Day
Time	=	Hour ":" Minute ":" Second ":" Millisecond
Year	=	4DIGIT
Month	=	2DIGIT ; 01-12
DayOfWeek	=	2DIGIT ; 00-06 (Sunday-Saturday)
Day	=	2DIGIT ; 01-31
Hour	=	2DIGIT ; 00-23
Minute	=	2DIGIT ; 00-59
Second	=	2DIGIT ; 00-59
Millisecond	=	4DIGIT

The following restrictions MUST apply on the **TimeZoneSerialization**:

1. Bias MUST be the **time zone bias**.
2. StandardDate MUST be the **time zone standard date**.
3. StandardBias MUST be the **time zone standard bias**.
4. DaylightDate MUST be the **time zone daylight date**.
5. DaylightBias MUST be the **time zone daylight bias**.
6. The following restrictions are specified in [\[RFC3339\]](#):
 1. Month MUST be date-month.
 2. Day MUST be date-mday.
 3. Hour MUST be time-hour.
 4. Minute MUST time-minute.
 5. Second MUST be time-second.
7. DayOfWeek MUST have one of the following values.

Value	Meaning
00	Sunday
01	Monday
02	Tuesday
03	Wednesday
04	Thursday
05	Friday
06	Saturday

3.1.4.30.3.2 OpenWorkbookOutParameters

Output parameters for **OpenWorkbook**.

```
<xs:complexType name="OpenWorkbookOutParameters">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="ClientWorkbookUri" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="WorkbookFileName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PrivacyUri" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="TermsUri" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

ClientWorkbookUri: If the value of **outFlags** element of [OpenWorkbookResponse](#) contains the **HasOpenItemPermission** value and the value of **flags** element of [OpenWorkbook](#) does not contain the NewWorkbook value, then MUST contain a valid URI (Uniform Resource Identifier) as

specified in [\[RFC2396\]](#). The protocol server sets the **absolute path** to the workbook file which was opened. Otherwise, MUST be ignored by the protocol client.

WorkbookFileName: If the value of **flags** element of **OpenWorkbook** does not contain the **NewWorkbook** value, then MUST contain the file name of the workbook file; otherwise, MUST NOT be present.

PrivacyUri: MUST be present. MUST be empty. MUST be ignored by the protocol client.

TermsUri: MUST be present. MUST be empty. MUST be ignored by the protocol client.

3.1.4.30.4 Simple Types

3.1.4.30.4.1 OpenWorkbookFlags

Control flags for **OpenWorkbook**.

```
<xs:simpleType name="OpenWorkbookFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="NewWorkbook"/>
        <xs:enumeration value="EditMode"/>
        <xs:enumeration value="DisableUndo"/>
        <xs:enumeration value="Recyclable"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for **OpenWorkbookFlags**:

Value	Meaning
NewWorkbook	The protocol server creates a new workbook session. Mutually exclusive to EditMode .
EditMode	The protocol server creates an edit session, or adds a participant to an existing open edit session. Mutually exclusive to NewWorkbook , ForceViewOnly , and Recyclable .
DisableUndo	The protocol server disables undo functionality in the open workbook.
Recyclable	The protocol server uses session recycling . Mutually exclusive to EditMode .

3.1.4.30.4.2 OpenWorkbookOutFlags

Output flags for **OpenWorkbook**.

```
<xs:simpleType name="OpenWorkbookOutFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="ViewOnly"/>
        <xs:enumeration value="HasOpenItemPermission"/>
        <xs:enumeration value="HasEditItemPermission"/>
        <xs:enumeration value="RequiresCheckOut"/>
        <xs:enumeration value="Biff8Format"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

```

        <xs:enumeration value="HasUnsupportedFeatures"/>
    </xs:restriction>
</xs:simpleType>
</xs:list>
</xs:simpleType>

```

The following table specifies the allowable values for OpenWorkbookOutFlags:

Value	Meaning
ViewOnly	Specified if a view session in view-only mode was opened.
HasOpenItemPermission	Specified if the user has Open Item permission on the workbook file.
HasEditItemPermission	Specified if the user has permissions to edit the workbook file in the document library.
RequiresCheckOut	Specified if the user has to check out the workbook file in the document library to make changes to the file.
Biff8Format	MUST NOT be used.
HasUnsupportedFeatures	Specified if the workbook contains unsupported content.

3.1.4.31 ParseRange

This operation is used to parse a specified range in the workbook.

```

<wsdl:operation name="ParseRange">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ParseRange" message="tns:ExcelServiceSoap_ParseRange_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ParseRangeResponse"
    message="tns:ExcelServiceSoap_ParseRange_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ParseRangeExcelServerMessageFault" name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ParseRange_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_ParseRange_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ParseRange_OutputMessage** response message as follows:

- The protocol server determines the [SheetRange](#) to return in the following manner:
 - If the protocol server cannot determine the worksheet from the **rangeToParse** element, the protocol server MUST return the range specified in **rangeToParse** on the first worksheet.
 - If the protocol server can determine the worksheet from the **rangeToParse** element, the protocol server MUST return the range specified in **rangeToParse** on the determined worksheet.

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<42>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
RangeParseError

3.1.4.31.1 Messages

3.1.4.31.1.1 ExcelServiceSoap_ParseRange_InputMessage

The requested WSDL message for a **ParseRange** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ParseRange
```

The SOAP body contains a **ParseRange** element.

3.1.4.31.1.2 ExcelServiceSoap_ParseRange_OutputMessage

The response WSDL message for a **ParseRange** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ParseRangeResponse
```

The SOAP body contains a **ParseRangeResponse** element.

3.1.4.31.2 Elements

3.1.4.31.2.1 ParseRange

The input data for a **ParseRange** WSDL operation.

```
<xs:element name="ParseRange">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="rangeToParse" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

rangeToParse: A range, as specified in [RangeReference](#), to be parsed. MUST be present.

3.1.4.31.2.2 ParseRangeResponse

The result data for a **ParseRange** WSDL operation.

```
<xs:element name="ParseRangeResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ParseRangeResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ParseRangeResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

sheetRange: The range, as specified in [SheetRange](#), was parsed by the protocol server. MUST be present.

- **SheetName** MUST be present and MUST NOT be empty.

3.1.4.32 Recalc

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

```
<wsdl:operation name="Recalc">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/Recalc" message="tns:ExcelServiceSoap_Recalc_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcResponse"
message="tns:ExcelServiceSoap_Recalc_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_Recalc_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_Recalc_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_Recalc_OutputMessage** response message as follows:

- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<43>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError

Id
RangeParseError
SheetRangeMismatch

3.1.4.32.1 Messages

3.1.4.32.1.1 ExcelServiceSoap_Recalc_InputMessage

The requested WSDL message for a **Recalc** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/Recalc
```

The SOAP body contains a **Recalc** element.

3.1.4.32.1.2 ExcelServiceSoap_Recalc_OutputMessage

The response WSDL message for a **Recalc** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RecalcResponse
```

The SOAP body contains a **RecalcResponse** element.

3.1.4.32.2 Elements

3.1.4.32.2.1 Recalc

The input data for a **Recalc** WSDL operation.

```
<xs:element name="Recalc">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

sheetRange: A [SheetRange](#) to calculate in the workbook.

- MUST be present.
- **SheetName** MUST be present and MUST NOT be empty.

3.1.4.32.2 RecalcResponse

The result data for a **Recalc** WSDL operation.

```
<xs:element name="RecalcResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RecalcResult" type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RecalcResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.33 RecalcA1

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

```
<wsdl:operation name="RecalcA1">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/RecalcA1" message="tns:ExcelServiceSoap_RecalcA1_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/RecalcA1Response"
    message="tns:ExcelServiceSoap_RecalcA1_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/RecalcA1ExcelServerMessageFault" name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_RecalcA1_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_RecalcA1_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_RecalcA1_OutputMessage** response message as follows:

- If **rangeName** is empty, the protocol server calculates the whole sheet (2), which is specified in the **sheetName** element.
- If **rangeName** is not empty, the protocol server calculates the specified range.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<44>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
EcsInvalidNamedObject
InvalidSheetName
RangeDefinitionError
RangeParseError

Id
SheetRangeMismatch

3.1.4.33.1 Messages

3.1.4.33.1.1 ExcelServiceSoap_RecalcA1_InputMessage

The requested WSDL message for a **RecalcA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RecalcA1
```

The SOAP body contains a **RecalcA1** element.

3.1.4.33.1.2 ExcelServiceSoap_RecalcA1_OutputMessage

The response WSDL message for a **RecalcA1** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RecalcA1Response
```

The SOAP body contains a **RecalcA1Response** element.

3.1.4.33.2 Elements

3.1.4.33.2.1 RecalcA1

The input data for a **RecalcA1** WSDL operation.

```
<xs:element name="RecalcA1">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <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>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

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

rangeName: The name of the range, as specified in [RangeReference](#), to calculate. MUST be present.

3.1.4.33.2.2 RecalcA1Response

The result data for a **RecalcA1** WSDL operation.

```
<xs:element name="RecalcA1Response">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RecalcA1Result"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RecalcA1Result: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.34 RecalcAll

This operation is used to calculate the workbook.

```
<wsdl:operation name="RecalcAll">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcAll" message="tns:ExcelServiceSoap_RecalcAll_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcAllResponse"
message="tns:ExcelServiceSoap_RecalcAll_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcAllExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_RecalcAll_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_RecalcAll_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_RecalcAll_OutputMessage** response message as follows:

- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<45>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.34.1 Messages

3.1.4.34.1.1 ExcelServiceSoap_RecalcAll_InputMessage

The requested WSDL message for a **RecalcAll** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/RecalcAll
```

The SOAP body contains a **RecalcAll** element.

3.1.4.34.1.2 ExcelServiceSoap_RecalcAll_OutputMessage

The response WSDL message for a **RecalcAll** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RecalcAllResponse
```

The SOAP body contains a **RecalcAllResponse** element.

3.1.4.34.2 Elements

3.1.4.34.2.1 RecalcAll

The input data for a **RecalcAll** WSDL operation.

```
<xs:element name="RecalcAll">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="1" maxOccurs="1" name="calculateType" type="tns:CalculateType"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

calculateType: The type of calculation to be executed as specified in [CalculateType](#).

3.1.4.34.2.2 RecalcAllResponse

The result data for a **RecalcAll** WSDL operation.

```
<xs:element name="RecalcAllResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RecalcAllResult"
        type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RecalcAllResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.34.3 Simple Types

3.1.4.34.3.1 CalculateType

Specifies the type of calculation to be executed.

```
<xs:simpleType name="CalculateType">
  <xs:restriction base="xs:string">
```

```

    <xs:enumeration value="Recalculate"/>
    <xs:enumeration value="CalculateFull"/>
  </xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for CalculateType:

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

3.1.4.35 Refresh

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

```

<wsdl:operation name="Refresh">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/Refresh" message="tns:ExcelServiceSoap_Refresh_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshResponse"
message="tns:ExcelServiceSoap_Refresh_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_Refresh_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_Refresh_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_Refresh_OutputMessage** response message as follows:

- If **dataConnectionName** is present and is not empty, the protocol server refreshes the connected data as identified by the value of **dataConnectionName** element by the protocol server.
- For the lifetime of the session (2) the protocol server allows external data refresh.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<46>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource

Id
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.35.1 Messages

3.1.4.35.1.1 ExcelServiceSoap_Refresh_InputMessage

The requested WSDL message for a **Refresh** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/Refresh
```

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

3.1.4.35.1.2 ExcelServiceSoap_Refresh_OutputMessage

The response WSDL message for a **Refresh** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RefreshResponse
```

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

3.1.4.35.2 Elements

3.1.4.35.2.1 Refresh

The input data for a **Refresh** WSDL operation.

```
<xs:element name="Refresh">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="dataConnectionName" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

dataConnectionName: A data connection (2). MUST be present. MUST NOT be empty. MUST NOT be longer than 255 characters.

3.1.4.35.2.2 RefreshResponse

The result data for a **Refresh** WSDL operation.

```
<xs:element name="RefreshResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RefreshResult" type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RefreshResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.36 RefreshAll

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

```
<wsdl:operation name="RefreshAll">
  <wsdl:input
  wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
  Service/ExcelServiceSoap/RefreshAll" message="tns:ExcelServiceSoap_RefreshAll_InputMessage"/>
  <wsdl:output
  wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
  Service/ExcelServiceSoap/RefreshAllResponse"
  message="tns:ExcelServiceSoap_RefreshAll_OutputMessage"/>
  <wsdl:fault
  wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
  Service/ExcelServiceSoap/RefreshAllExcelServerMessageFault" name="ExcelServerMessageFault"
  message="tns:ExcelServiceSoap_RefreshAll_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

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

- For the lifetime of the session (2) the protocol server allows external data refresh.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<47>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.36.1 Messages

3.1.4.36.1.1 ExcelServiceSoap_RefreshAll_InputMessage

The requested WSDL message for a **RefreshAll** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RefreshAll
```

The SOAP body contains a **RefreshAll** element.

3.1.4.36.1.2 ExcelServiceSoap_RefreshAll_OutputMessage

The response WSDL message for a **RefreshAll** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RefreshAllResponse
```

The SOAP body contains a **RefreshAllResponse** element.

3.1.4.36.2 Elements

3.1.4.36.2.1 RefreshAll

The input data for a **RefreshAll** WSDL operation.

```
<xs:element name="RefreshAll">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="1" maxOccurs="1" name="periodic" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

periodic: Specifies whether to only refresh connected data that has expired. If set to true, specifies to refresh only connected data that has expired by the protocol server. If set to false, specifies to refresh all connected data by the protocol server on the workbook.

3.1.4.36.2.2 RefreshAllResponse

The result data for a **RefreshAll** WSDL operation.

```
<xs:element name="RefreshAllResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RefreshAllResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RefreshAllResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.37 RemovePivotFilter

This operation is used to remove any PivotTable filters that are applied to a PivotTable field.

```
<wsdl:operation name="RemovePivotFilter">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
```

```

Service/ExcelServiceSoap/RemovePivotFilter"
message="tns:ExcelServiceSoap_RemovePivotFilter_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RemovePivotFilterResponse"
message="tns:ExcelServiceSoap_RemovePivotFilter_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RemovePivotFilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_RemovePivotFilter_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_RemovePivotFilter_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_RemovePivotFilter_OutputMessage** response message as follows:

- The protocol client sends the information identifying the PivotTable field in the **pivotOperationOptions** element.
- The protocol server removes any PivotTable filters that are applied to that PivotTable field.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<48>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly

Id
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.37.1 Messages

3.1.4.37.1.1 ExcelServiceSoap_RemovePivotFilter_InputMessage

The requested WSDL message for a **RemovePivotFilter** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RemovePivotFilter
```

The SOAP body contains a **RemovePivotFilter** element.

3.1.4.37.1.2 ExcelServiceSoap_RemovePivotFilter_OutputMessage

The response WSDL message for a **RemovePivotFilter** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RemovePivotFilterResponse
```

The SOAP body contains a **RemovePivotFilterResponse** element.

3.1.4.37.2 Elements

3.1.4.37.2.1 RemovePivotFilter

The input data for a **RemovePivotFilter** WSDL operation.

```
<xs:element name="RemovePivotFilter">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable field identification as specified in [PivotOperationOptions](#). MUST be present.

3.1.4.37.2.2 RemovePivotFilterResponse

The result data for a **RemovePivotFilter** WSDL operation.

```
<xs:element name="RemovePivotFilterResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RemovePivotFilterResult"
        type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RemovePivotFilterResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.38 ResizeRowsColumns

This operation is used to set the heights or widths of specified rows (2) or columns (2) in a workbook.

```
<wsdl:operation name="ResizeRowsColumns">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ResizeRowsColumns"
    message="tns:ExcelServiceSoap_ResizeRowsColumns_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ResizeRowsColumnsResponse"
    message="tns:ExcelServiceSoap_ResizeRowsColumns_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/ResizeRowsColumnsExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_ResizeRowsColumns_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_ResizeRowsColumns_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_ResizeRowsColumns_OutputMessage** response message as follows:

- If the value of **ColumnWidth** element in [ResizeRowColumnRange](#) is equal to -1, then:
 - The value of **RowHeight** element, as specified in [ResizeRowColumnRange](#), MUST be larger than or equal to 0.
 - The protocol server sets the row (2) height to the value of **RowHeight** element as specified in [ResizeRowColumnRange](#).
- If the value of **RowHeight** element in [ResizeRowColumnRange](#) is equal to -1, then:
 - The value of **ColumnWidth** element, as specified in [ResizeRowColumnRange](#), MUST be larger than or equal to 0.
 - The protocol server sets the column (2) height to the value of **ColumnWidth** element as specified in [ResizeRowColumnRange](#).

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<49>](#) be one of the values specified in [Common list of IDs](#).
- This operation is a state changing operation on the protocol server.

3.1.4.38.1 Messages

3.1.4.38.1.1 ExcelServiceSoap_ResizeRowsColumns_InputMessage

The requested WSDL message for a **ResizeRowsColumns** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ResizeRowsColumns
```

The SOAP body contains a **ResizeRowsColumns** element.

3.1.4.38.1.2 ExcelServiceSoap_ResizeRowsColumns_OutputMessage

The response WSDL message for a **ResizeRowsColumns** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/ResizeRowsColumnsResponse
```

The SOAP body contains a **ResizeRowsColumnsResponse** element.

3.1.4.38.2 Elements

3.1.4.38.2.1 ResizeRowsColumns

The input data for a **ResizeRowsColumns** WSDL operation.

```
<xs:element name="ResizeRowsColumns">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="resizeRowColumnRange"
type="tns:ResizeRowColumnRange"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

resizeRowColumnRange: The range of rows (2) and columns (2) to be resized and the new row (2) height and column (2) width as specified in [ResizeRowColumnRange](#). MUST be present.

3.1.4.38.2.2 ResizeRowsColumnsResponse

The result data for a **ResizeRowsColumns** WSDL operation.

```
<xs:element name="ResizeRowsColumnsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ResizeRowsColumnsResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

ResizeRowsColumnsResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.38.3 Complex Types

3.1.4.38.3.1 ResizeRowColumnRange

The type specifies the height or width for the rows (2) or columns (2) to apply to a range as specified in [SheetRange](#).

```
<xs:complexType name="ResizeRowColumnRange">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:SheetRange">
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="ColumnWidth" type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="RowHeight" type="xs:int"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

ColumnWidth: The new column (2) width in pixels. MUST be larger than or equal to -1.

RowHeight: The new row (2) height in pixels. MUST be larger than or equal to -1.

3.1.4.39 SaveWorkbook

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

```
<wsdl:operation name="SaveWorkbook">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbook"
message="tns:ExcelServiceSoap_SaveWorkbook_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookResponse"
message="tns:ExcelServiceSoap_SaveWorkbook_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SaveWorkbook_ExcelServerMessageFault_FaultMessage"/>
```

</wsdl:operation>

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

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<50>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
SavingUnsupportedInViewMode
SavingWorkbookAccessDenied
SavingWorkbookLockedOrCheckedOut

3.1.4.39.1 Messages

3.1.4.39.1.1 ExcelServiceSoap_SaveWorkbook_InputMessage

The requested WSDL message for a **SaveWorkbook** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SaveWorkbook
```

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

3.1.4.39.1.2 ExcelServiceSoap_SaveWorkbook_OutputMessage

The response WSDL message for a **SaveWorkbook** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SaveWorkbookResponse
```

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

3.1.4.39.2 Elements

3.1.4.39.2.1 SaveWorkbook

The input data for a **SaveWorkbook** WSDL operation.

```
<xs:element name="SaveWorkbook">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

    </xs:sequence>
  </xs:complexType>
</xs:element>

```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

3.1.4.39.2.2 SaveWorkbookResponse

The result data for a **SaveWorkbook** WSDL operation.

```

<xs:element name="SaveWorkbookResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SaveWorkbookResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

SaveWorkbookResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.40 SaveWorkbookAs

This operation is used to save a session (2) to a specified location, and in a specified format.

```

<wsdl:operation name="SaveWorkbookAs">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookAs"
message="tns:ExcelServiceSoap_SaveWorkbookAs_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookAsResponse"
message="tns:ExcelServiceSoap_SaveWorkbookAs_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookAsExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SaveWorkbookAs_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

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

- If the following conditions are met, then the session (2) specified in **parameter** is written to **location** in the format specified by **workbookType**:
 - **location** is valid.
 - The user has **rights** to write to **location**.
 - **location** does not correspond to an existing file, or **OverwriteExistingFile** is specified in **flags**.
- If the previous conditions are not met, a SOAP fault is returned, as specified in [Faults](#).

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in Faults. The **Id** element of the **ExcelServerMessage** SHOULD [<51>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
SavingWorkbookAccessDenied
SavingWorkbookFileNameExists
SavingWorkbookInvalidFileName
SavingWorkbookInvalidLocation
SavingWorkbookInvalidPermissions
SavingWorkbookLockedOrCheckedOut
SavingWorkbookNotCheckedOut
SavingWorkbookNotTrustedLocation

3.1.4.40.1 Messages

3.1.4.40.1.1 ExcelServiceSoap_SaveWorkbookAs_InputMessage

The requested WSDL message for a **SaveWorkbookAs** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SaveWorkbookAs
```

The SOAP body contains a **SaveWorkbookAs** element.

3.1.4.40.1.2 ExcelServiceSoap_SaveWorkbookAs_OutputMessage

The response WSDL message for a **SaveWorkbookAs** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SaveWorkbookAsResponse
```

The SOAP body contains a **SaveWorkbookAsResponse** element.

3.1.4.40.2 Elements

3.1.4.40.2.1 SaveWorkbookAs

The input data for a **SaveWorkbookAs** WSDL operation.

```
<xs:element name="SaveWorkbookAs">
  <xs:complexType>
```

```

<xs:sequence>
  <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
  <xs:element minOccurs="0" maxOccurs="1" name="location" type="xs:string"/>
  <xs:element minOccurs="1" maxOccurs="1" name="workbookType" type="tns:WorkbookType"/>
  <xs:element minOccurs="1" maxOccurs="1" name="flags" type="tns:SaveAsFlags"/>
</xs:sequence>
</xs:complexType>
</xs:element>

```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

location: The location of the workbook file to write.

- MUST be present.
- If the specified value is not a URI (Uniform Resource Identifier) as specified in [RFC2396](#), the protocol server MUST return an **ExcelServerMessage** as specified in the [Faults](#) section, with the value of the **Id** element of the **ExcelServerMessage** set to **SavingWorkbookInvalidFileName**.
- The protocol server ignores the number sign ('#') and fragment, as specified in [RFC3986](#).

workbookType: A **WorkbookType** as specified in [WorkbookType](#). MUST be present.

flags: A combination of 0 or more values of **SaveAsFlags** (see the following **SaveAsFlags** section). MUST be present.

3.1.4.40.2 SaveWorkbookAsResponse

The result data for a **SaveWorkbookAs** WSDL operation.

```

<xs:element name="SaveWorkbookAsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SaveWorkbookAsResult"
type="tns:CommandResult"/>
      <xs:element minOccurs="0" maxOccurs="1" name="savedWorkbookUri" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

SaveWorkbookAsResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

savedWorkbookUri: The location to which the workbook was written.

- MUST be present.
- MUST be a valid URI (Uniform Resource Identifier).

3.1.4.40.3 Simple Types

3.1.4.40.3.1 SaveAsFlags

An enumeration of flags that can be specified for the **SaveWorkbookAs** operation.

```

<xs:simpleType name="SaveAsFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="OverwriteExistingFile"/>
        <xs:enumeration value="WarnWhenCrossingTrustedLocation"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>

```

The following table specifies the allowable values for SaveAsFlags:

Value	Meaning
OverwriteExistingFile	If this flag is not set, then if the location specified in the SaveWorkbookAs operation corresponds to an existing file, the protocol server will not overwrite the existing file.
WarnWhenCrossingTrustedLocation	If the location specified in the SaveWorkbookAs operation is in a different trusted location (1) than the trusted location (1) from which the session (2) was opened, an alert (2) MUST be returned to the protocol client.

3.1.4.41 SetCalculationOptions

This operation is used to set the workbook calculation mode.

```

<wsdl:operation name="SetCalculationOptions">
  <wsdl:input
  wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
  Service/ExcelServiceSoap/SetCalculationOptions"
  message="tns:ExcelServiceSoap_SetCalculationOptions_InputMessage"/>
  <wsdl:output
  wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
  Service/ExcelServiceSoap/SetCalculationOptionsResponse"
  message="tns:ExcelServiceSoap_SetCalculationOptions_OutputMessage"/>
  <wsdl:fault
  wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
  Service/ExcelServiceSoap/SetCalculationOptionsExcelServerMessageFault"
  name="ExcelServerMessageFault"
  message="tns:ExcelServiceSoap_SetCalculationOptions_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_SetCalculationOptions_InputMessage** request message and the protocol server responds with an

ExcelServiceSoap_SetCalculationOptions_OutputMessage response message as follows:

- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<52>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.41.1 Messages

3.1.4.41.1.1 ExcelServiceSoap_SetCalculationOptions_InputMessage

The requested WSDL message for a **SetCalculationOptions** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetCalculationOptions
```

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

3.1.4.41.1.2 ExcelServiceSoap_SetCalculationOptions_OutputMessage

The response WSDL message for a **SetCalculationOptions** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetCalculationOptionsResponse
```

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

3.1.4.41.2 Elements

3.1.4.41.2.1 SetCalculationOptions

The input data for a **SetCalculationOptions** WSDL operation.

```
<xs:element name="SetCalculationOptions">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="1" maxOccurs="1" name="calcType"
type="tns:WorkbookCalculation"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

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

3.1.4.41.2.2 SetCalculationOptionsResponse

The result data for a **SetCalculationOptions** WSDL operation.

```
<xs:element name="SetCalculationOptionsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetCalculationOptionsResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

    </xs:sequence>
  </xs:complexType>
</xs:element>

```

SetCalculationOptionsResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.41.3 Simple Types

3.1.4.41.3.1 WorkbookCalculation

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

```

<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>

```

The following table specifies the allowable values for WorkbookCalculation:

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

3.1.4.42 SetParameters

This operation is used to set values of workbook parameters in a workbook.

```

<wsdl:operation name="SetParameters">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/SetParameters"
    message="tns:ExcelServiceSoap_SetParameters_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/SetParametersResponse"
    message="tns:ExcelServiceSoap_SetParameters_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/SetParametersExcelServerMessageFault" name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_SetParameters_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

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

- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<53>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
FormulaEditingNotEnabled
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly
OdcFileDoesNotExist
ParameterDoesNotExist
SetParameterFailure
UnattendedAccountNotConfigured

3.1.4.42.1 Messages

3.1.4.42.1.1 ExcelServiceSoap_SetParameters_InputMessage

The requested WSDL message for a **SetParameters** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetParameters
```

The SOAP body contains a **SetParameters** element.

3.1.4.42.1.2 ExcelServiceSoap_SetParameters_OutputMessage

The response WSDL message for a **SetParameters** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetParametersResponse
```

The SOAP body contains a **SetParametersResponse** element.

3.1.4.42.2 Elements

3.1.4.42.2.1 SetParameters

The input data for a **SetParameters** WSDL operation.

```
<xs:element name="SetParameters">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="workbookParameters"
type="tns:ArrayOfWorkbookParameter"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

workbookParameters: The workbook parameters to be set in the workbook as specified in [ArrayOfWorkbookParameter](#). MUST be present.

3.1.4.42.2.2 SetParametersResponse

The result data for a **SetParameters** WSDL operation.

```
<xs:element name="SetParametersResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetParametersResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

SetParametersResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.42.3 Complex Types

3.1.4.42.3.1 ArrayOfWorkbookParameter

The **ArrayOfWorkbookParameter** complex type contains an array of [WorkbookParameter](#) elements. The count of elements in the sequence MUST be less than or equal to 255.

```
<xs:complexType name="ArrayOfWorkbookParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="WorkbookParameter" nillable="true"
type="tns:WorkbookParameter"/>
  </xs:sequence>
</xs:complexType>
```

WorkbookParameter: A workbook parameter as described in [WorkbookParameter](#).

3.1.4.42.3.2 WorkbookParameter

The **WorkbookParameter** complex type is used to represent a value or a list of values to be set into workbook parameters in the workbook.

```
<xs:complexType name="WorkbookParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Comment" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsPivotPageField" type="xs:boolean"/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsSlicer" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="RequiresConnection" type="xs:boolean"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfString"/>
  </xs:sequence>
</xs:complexType>
```

Comment: The length of the string MUST be 0 characters.

IsPivotPageField: MUST be set to false.

IsSlicer: MUST be set to false.

Name: The name of the workbook parameter. MUST be present. MUST NOT be empty. MUST be a value of the **Name** attribute of **CT_Parameter** as specified in [\[MS-EXSPXML\]](#) section 2.2.2.

RequiresConnection: MUST be set to false.

Values: An array of string values to set in the workbook parameter as specified in [ArrayOfString](#). The protocol server MUST ignore all the elements in [ArrayOfString](#), if all the following conditions are satisfied:

- The **IsPivotPageField** attribute of the **CT_Parameter**, as specified in [\[MS-EXSPXML\]](#) section 2.2.2, is not present or it is present and its value is false.
- The **IsSlicer** attribute of the **CT_Parameter**, as specified in [\[MS-EXSPXML\]](#) section 2.2.2, is not present or it is present and its value is false.
- The **Values** element is not present or the number of elements in [ArrayOfString](#) is not equal to 1.

If the **IsPivotPageField** attribute of the **CT_Parameter**, as specified in [\[MS-EXSPXML\]](#) section 2.2.2, is present and its value is set to true then:

- If the **Values** element is not present the protocol server will change the PivotTable manual filter in the workbook to the **default filter value**.
- If the **Values** element is present, and there are no elements in **ArrayOfString**, the protocol server will change the PivotTable manual filter in the workbook to the default filter value.
- If the **Values** element is present and the number of elements in **ArrayOfString** is greater than or equal to 1, the protocol server will use the values as the PivotTable manual filter in the workbook.

If the **IsSlicer** attribute of the **CT_Parameter**, as specified in [\[MS-EXSPXML\]](#) section 2.2.2, is present and its value is set to true then:

- If the **Values** element is not present the protocol server will change the slicer manual filter in the workbook to the default filter value.
- If the **Values** element is present, and there are no elements in **ArrayOfString**, the protocol server will change the slicer manual filter in the workbook to the default filter value.
- If the **Values** element is present and the number of elements in **ArrayOfString** is greater than or equal to 1, the protocol server will use the values as the slicer manual filter in the workbook.

Each string element of **ArrayOfString** MUST NOT be longer than 1024 characters.

3.1.4.43 SetRange

This operation is used to set values to a range of worksheet cells on a workbook.

```
<wsdl:operation name="SetRange">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/SetRange" message="tns:ExcelServiceSoap_SetRange_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/SetRangeResponse"
    message="tns:ExcelServiceSoap_SetRange_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
    Service/ExcelServiceSoap/SetRangeExcelServerMessageFault" name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_SetRange_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_SetRange_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_SetRange_OutputMessage** response message as follows:

- If **cellsArray** is not present, the protocol server MUST return an **ExcelServerMessage** as specified in the SOAP fault section. The **Id** element of the **ExcelServerMessage** MUST be **RangeDefinitionError**.
- If the **SheetName** element inside **sheetRange** is empty, the protocol server MUST return an **ExcelServerMessage** as specified in the SOAP fault section. The **Id** element of the **ExcelServerMessage** MUST be **InvalidSheetName**.

- If the user does not have the Open Item permission on the workbook, **cellsArray** SHOULD [<54>](#) contain only one item.
- Each element inside the **cellsArray** element MUST be of type **ArrayOfAnyType** and be a row (2) of worksheet cells sent to the protocol server. The number of rows (2) in **cellsArray** MUST be equal to the number of rows (2) specified in the **sheetRange** element.
- Each element inside each of the **ArrayOfAnyType** type nested inside **cellsArray** 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 **sheetRange** element.
- If the **values** element in the **cellsArray** contains formulas not recognized by the protocol server, then:
 - If the value of **ProtocolClientId** element in the **parameter** as defined in [CommandParameter](#) is set to "ms-ewa", the protocol server MUST set the text representation of the formulas into the cells.
 - If the **EwarCall** element in the **parameter** as defined in [CommandParameter](#) is set to false, the protocol server MUST return a SOAP fault as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** MUST be **FormulaParseFailed**.
- All worksheet cells in the **cellsArray** element MUST either be empty and with the xsi:nil attribute set to true or one of the following types: **boolean**, **dateTime**, **decimal**, **double**, **float**, **int**, **short**, **string**, or **unsigned byte**.
 - If the value is of type **string**, then 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.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<55>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
CannotEditPivotTable
DimensionMismatch
EcsInvalidNamedObject
FormulaEditingNotEnabled
InvalidSheetName
ObjectTypeNotSupported
RangeDefinitionError
RangeParseError
SetRangeFailure

Id
SheetRangeMismatch

3.1.4.43.1 Messages

3.1.4.43.1.1 ExcelServiceSoap_SetRange_InputMessage

The requested WSDL message for a **SetRange** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetRange
```

The SOAP body contains a **SetRange** element.

3.1.4.43.1.2 ExcelServiceSoap_SetRange_OutputMessage

The response WSDL message for a **SetRange** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetRangeResponse
```

The SOAP body contains a **SetRangeResponse** element.

3.1.4.43.2 Elements

3.1.4.43.2.1 SetRange

The input data for a **SetRange** WSDL operation.

```
<xs:element name="SetRange">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"/>
      <xs:element minOccurs="0" maxOccurs="1" name="cellsArray"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

sheetRange: The range to set. See [SheetRange](#). MUST be present. The **SheetName** element MUST be present and MUST NOT be empty.

cellsArray: The array of cell values to set. MUST be present.

3.1.4.43.2.2 SetRangeResponse

The result data for a **SetRange** WSDL operation.

```
<xs:element name="SetRangeResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetRangeResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

SetRangeResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.44 SetRangeA1

This operation is used to set values to a range of worksheet cells on a workbook.

```
<wsdl:operation name="SetRangeA1">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeA1" message="tns:ExcelServiceSoap_SetRangeA1_InputMessage"/>
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeA1Response"
message="tns:ExcelServiceSoap_SetRangeA1_OutputMessage"/>
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeA1ExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SetRangeA1_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_SetRangeA1_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_SetRangeA1_OutputMessage** response message as follows:

- Each element inside the **SetRangeRequest** MUST be of type **RangeValuesA1** as specified in [RangeValuesA1](#). The number of elements MUST be equal to the number of named ranges that the protocol client tries to set values to. Each **RangeValuesA1** element specifies the **rangeName**, **SheetName** and the **Values** to be set into the workbook.
 - If **rangeName** is empty, the protocol server MUST return an **ExcelServerMessage** as specified in the SOAP fault section. The **Id** element of the **ExcelServerMessage** MUST be **RangeParseError**.
 - If **sheetName** is empty, the protocol server MUST use the first worksheet on the workbook unless a worksheet can be determined from **rangeName**, in which case the worksheet, as determined from **rangeName**, MUST be used.
 - If a worksheet cannot be determined from **rangeName**, the protocol server MUST use range on the worksheet determined by **sheetName** to locate the range to set.
- All worksheet cells in the **Values** element of **RangeValuesA1** MUST either be empty and with the **xsi:nil** attribute set to true or one of the following types: **boolean**, **dateTime**, **decimal**, **double**, **float**, **int**, **short**, **string**, or **unsigned byte**.

- If the value is of type **string**, then 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.
- If the **Values** element of **RangeValuesA1** contains formulas not recognized by the protocol server, then:
 - If the value of **ProtocolClientId** element in the **parameter** as defined in [CommandParameter](#) is set to "ms-ewa", the protocol server MUST set the text representation of the formulas into the cells.
 - If the value of **ProtocolClientId** element in the **parameter** as defined in [CommandParameter](#) is set to "ms-soap", the protocol server MUST return a SOAP fault as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** MUST be **FormulaParseFailed**.
- If the user does not have Open Item permission on the workbook, the **Value** of **RangeValuesA1** SHOULD [<56>](#) contain only one worksheet cell.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<57>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
CannotEditPivotTable
DimensionMismatch
EcsInvalidNamedObject
FormulaEditingNotEnabled
InvalidSheetName
ObjectTypeNotSupported
RangeDefinitionError
RangeParseError
SetRangeFailure
SheetRangeMismatch

3.1.4.44.1 Messages

3.1.4.44.1.1 ExcelServiceSoap_SetRangeA1_InputMessage

The requested WSDL message for a **SetRangeA1** WSDL operation.

The SOAP action value is:

http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetRangeA1

The SOAP body contains a **SetRangeA1** element.

3.1.4.44.1.2 ExcelServiceSoap_SetRangeA1_OutputMessage

The response WSDL message for a **SetRangeA1** method.

The SOAP action value is:

http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SetRangeA1Response

The SOAP body contains a **SetRangeA1Response** element.

3.1.4.44.2 Elements

3.1.4.44.2.1 SetRangeA1

The input data for a **SetRangeA1** WSDL operation.

```
<xs:element name="SetRangeA1">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="setRangeRequests"
type="tns:ArrayOfRangeValuesA1"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

setRangeRequests: An array of **RangeValuesA1** elements that contains the values to be set into the cells.

3.1.4.44.2.2 SetRangeA1Response

The result data for a **SetRangeA1** WSDL operation.

```
<xs:element name="SetRangeA1Response">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetRangeA1Result"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

SetRangeA1Result: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.45 SortFilterColumn

This operation is used to change the sort order (2) of a table or worksheet AutoFilter in the workbook.

```
<wsdl:operation name="SortFilterColumn">
  <wsdl:input
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SortFilterColumn"
    message="tns:ExcelServiceSoap_SortFilterColumn_InputMessage"/>
  <wsdl:output
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SortFilterColumnResponse"
    message="tns:ExcelServiceSoap_SortFilterColumn_OutputMessage"/>
  <wsdl:fault
    wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SortFilterColumnExcelServerMessageFault"
    name="ExcelServerMessageFault"
    message="tns:ExcelServiceSoap_SortFilterColumn_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>
```

The protocol client sends an **ExcelServiceSoap_SortFilterColumn_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_SortFilterColumn_OutputMessage** response message as follows:

- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<58>](#) be one of the values specified in [Common list of IDs](#).

3.1.4.45.1 Messages

3.1.4.45.1.1 ExcelServiceSoap_SortFilterColumn_InputMessage

The requested WSDL message for a **SortFilterColumn** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SortFilterColumn
```

The SOAP body contains a **SortFilterColumn** element.

3.1.4.45.1.2 ExcelServiceSoap_SortFilterColumn_OutputMessage

The response WSDL message for a **SortFilterColumn** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/SortFilterColumnResponse
```

The SOAP body contains a **SortFilterColumnResponse** element.

3.1.4.45.2 Elements

3.1.4.45.2.1 SortFilterColumn

The input data for a **SortFilterColumn** WSDL operation.

```
<xs:element name="SortFilterColumn">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions"/>
      <xs:element minOccurs="1" maxOccurs="1" name="ascending" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

autoFilterOptions: The options to be used when sorting the AutoFilter column as specified in [AutoFilterOptions](#).

- MUST be present.
- The **CriteriaType** element of AutoFilterOptions MUST be set to Nil, and the **Criteria** element MUST NOT be present.

ascending: The sort order (2) to apply to the AutoFilter. A true value specifies an ascending order, and a false value specifies a descending order.

3.1.4.45.2.2 SortFilterColumnResponse

The result data for a **SortFilterColumn** WSDL operation.

```
<xs:element name="SortFilterColumnResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SortFilterColumnResult"
type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

SortFilterColumnResult: A **CommandResult** as specified in [CommandResult](#). MUST be present.

3.1.4.46 TogglePivotDrill

This operation is used to expand or collapse a PivotTable member.

```
<wsdl:operation name="TogglePivotDrill">
  <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/TogglePivotDrill"
message="tns:ExcelServiceSoap_TogglePivotDrill_InputMessage"/>
```

```

    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/TogglePivotDrillResponse"
message="tns:ExcelServiceSoap_TogglePivotDrill_OutputMessage"/>
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/TogglePivotDrillExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_TogglePivotDrill_ExcelServerMessageFault_FaultMessage"/>
</wsdl:operation>

```

The protocol client sends an **ExcelServiceSoap_TogglePivotDrill_InputMessage** request message and the protocol server responds with an **ExcelServiceSoap_TogglePivotDrill_OutputMessage** response message as follows:

- The protocol client sends the PivotTable member to be expanded or collapsed in the **pivotOperationOptions** element.
- The protocol server expands the PivotTable member if it was collapsed. The protocol server collapses the PivotTable member if it was expanded.
- This operation is a state changing operation on the protocol server.
- In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in [Faults](#). The **Id** element of the **ExcelServerMessage** SHOULD [<59>](#) be one of the values specified in [Common list of IDs](#) or any of the following values.

Id
DclNotTrusted
ErrorAccessingSsoFromEcs
ErrorAccessingSsofromWfe
ErrorConnectingToDataSource
ErrorConnectingToDataSourceReadOrViewOnly
ExternalDataNotAllowedOnTL
ExternalDataRefreshFailed
ExternalDataRefreshFailed_Details
ExternalDataRefreshFailedReadOrViewOnly
ExternalDataRefreshFailedReal
IncorrectAuthUsed
InvalidUriorLocalConnectionPath
InvalidUserNameOrPassword
InvalidUserNameOrPasswordReadOrViewOnly
NoAccessToOdcReadOrViewOnly

Id
OdcFileDoesNotExist
UnattendedAccountNotConfigured

3.1.4.46.1 Messages

3.1.4.46.1.1 ExcelServiceSoap_TogglePivotDrill_InputMessage

The requested WSDL message for a **TogglePivotDrill** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/TogglePivotDrill
```

The SOAP body contains a **TogglePivotDrill** element.

3.1.4.46.1.2 ExcelServiceSoap_TogglePivotDrill_OutputMessage

The response WSDL message for a **TogglePivotDrill** method.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/TogglePivotDrillResponse
```

The SOAP body contains a **TogglePivotDrillResponse** element.

3.1.4.46.2 Elements

3.1.4.46.2.1 TogglePivotDrill

The input data for a **TogglePivotDrill** WSDL operation.

```
<xs:element name="TogglePivotDrill">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter"/>
      <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

parameter: A **CommandParameter** as specified in [CommandParameter](#). MUST be present.

pivotOperationOptions: The PivotTable member to be expanded or collapsed. MUST be present. The following MUST extend or override the standard behavior specified in [PivotOperationOptions](#):

- **FieldId:** MUST be present and empty.

- **Column:** The column of the PivotTable member. MUST be the zero-based column number of a worksheet cell of the PivotTable that has the **Drillable** attribute of the **CT_Cell** element ([\[MS-EXSPXML\]](#) section 2.2.40) set to true.
- **Row:** The row (2) of the PivotTable member. MUST be the zero-based row (2) number of a worksheet cell of the PivotTable that has the **Drillable** attribute of the **CT_Cell** element ([\[MS-EXSPXML\]](#) section 2.2.40) set to true.

3.1.4.46.2 TogglePivotDrillResponse

The result data for a **TogglePivotDrill** WSDL operation.

```
<xs:element name="TogglePivotDrillResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="TogglePivotDrillResult"
        type="tns:CommandResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

TogglePivotDrillResult: A **CommandResult** as defined in [CommandResult](#). MUST be present.

3.1.5 Timer Events

3.1.5.1 Session Timeout

The **Session Timeout** event MAY [<60>](#) completes a request for a timed out time sessions (2) with a SOAP fault, as specified in [Faults](#), with the value of the **Id** element of the **ExcelServerMessage** set to **InvalidOrTimedOutSession**.

3.1.5.2 Request Timeout

The **Request Timeout** event SHOULD [<61>](#) completes a request by the protocol server with a SOAP fault, as specified in [Faults](#), with the value of the **Id** element of the **ExcelServerMessage** set to **MaxRequestDurationExceeded**.

3.1.6 Other Local Events

None.

4 Protocol Examples

4.1 Filtering and sorting a list and returning XML

This example shows how this protocol is used to open a view session. It demonstrates how this protocol is used to filter a list (2) in a workbook and to fetch the representation of the workbook in XML format as specified in [\[MS-EXSPXML\]](#). It also demonstrates how this protocol is used to sort the list (2).

This example assumes that a workbook has already been created and is stored in a location that the protocol server can load files from. The workbook contains a list with an AutoFilter. The following UML diagram illustrates this example.

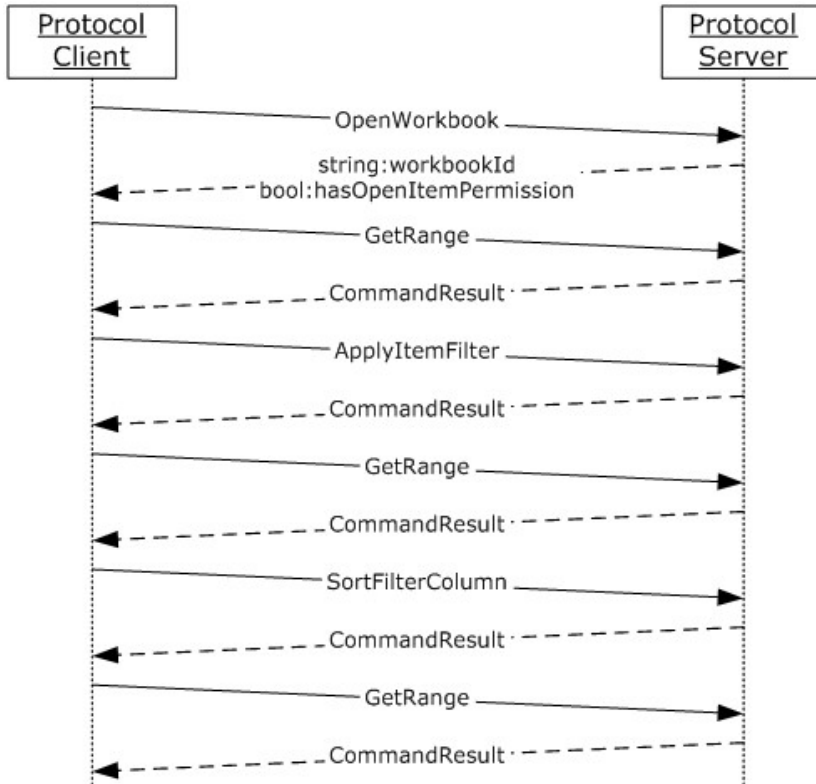


Figure 3: Communication sequence diagram for filtering and sorting a list and returning XML

The order of operations, including the relevant **XML (Extensible Markup Language)** for each step, is as follows:

Opening a new session (loading the workbook)

Request:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
```

```

<OpenWorkbook
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<url>http://Contoso/Docs/Documents/Filter.xlsx</url>
<flags>Recyclable</flags>
<parameter>
<StateId>-1</StateId>
<VisibleSheetRangeRequest>
<FirstRow>-1</FirstRow>
<VisibleRowsRequested>1</VisibleRowsRequested>
<FirstColumn>-1</FirstColumn>
<VisibleColumnsRequested>1</VisibleColumnsRequested>
<VisibleFirstRowOffset>0</VisibleFirstRowOffset>
<VisibleFirstColumnOffset>0</VisibleFirstColumnOffset>
<NoAutoAdjustToPublishedUsedRange>>false</NoAutoAdjustToPublishedUsedRange>
<NeedAllBorderValues>>false</NeedAllBorderValues>
<ChartsOnly>>false</ChartsOnly>
</VisibleSheetRangeRequest>
<Confirmation>Blank</Confirmation>
<ConfirmationChoice>>false</ConfirmationChoice>
<ProtocolClientId>ms-ewa</ProtocolClientId>
<RequestSiteId>bebf895a-f22a-49d5-b8b0-f65d01d0a399</RequestSiteId>
<CompleteResponseTimeout>2000</CompleteResponseTimeout>
<Flags></Flags>
</parameter>
<cultureParameter>
<UICultureName>en-US</UICultureName>
<DataCultureName>en-US</DataCultureName>
<SharePointDataCultureName></SharePointDataCultureName>
<TimeZoneSerialization>+0480#0000-11-00-01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-0060</TimeZoneSerialization>
</cultureParameter>
<subscriberId>bebf895a-f22a-49d5-b8b0-f65d01d0a399</subscriberId>
</OpenWorkbook>
</s:Body>
</s:Envelope>

```

Response:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<OpenWorkbookResponse
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<OpenWorkbookResult>
<StateId>1</StateId>
<SpreadsheetData><Workbook><WorkbookOptions/><Styles><Style ID="sD"><Font Size="11"
FontName="Calibri" Color="#000000"/></Style><Style ID="1"><Font Size="11" FontName="Calibri"
Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="2"><Font
Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="-1"><Borders/></Style><Style
ID="bD"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
Color="#D0D7E5"/><Border Weight="1" Position="Bottom" LineStyle="Continuous"
Color="#D0D7E5"/></Borders></Style><Style ID="-3"><Borders><Border Weight="1"
Position="Right" LineStyle="Continuous" Color="#D9D9D9"/><Border Weight="1" Position="Bottom"
LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style></Styles><Worksheet ActiveSheet="1"
Name="Sheet1"><WorksheetOptions DisplayOutlines="1"/><autofilters><autofilter Row="0"
ColFirst="0" Type="Sheet"><item Index="0" DataType="Text" Name="Customer

```



```

Geography"/></autofilter></autofilters><Table LastNonEmptyRow="54" LastNonEmptyColumn="2"
CurrentFirstRow="1" FirstVisibleRow="1" LastVisibleRow="1048576" CurrentFirstColumn="1"
FirstVisibleColumn="1" LastVisibleColumn="16384" SelectionTop="2" SelectionLeft="4"
DefaultRowHeight="15" DefaultRowHeightPixels="20" DefaultColumnWidth="48"
DefaultColumnWidthPixels="64" DefaultIndentWidth="6.75" DefaultIndentWidthPixels="9"><Column
Width="116.25" WidthPixels="155"/><Row Height="15" HeightPixels="20"><Cell StyleID="2"
BorderID="-3"><Data>Customer Geography</Data></Cell></Row></Table></Worksheet><Worksheet
Name="Sheet2"><WorksheetOptions DisplayOutlines="1"/></Worksheet><Worksheet
Name="Sheet3"><WorksheetOptions
DisplayOutlines="1"/></Worksheet></Workbook></SpreadsheetData>
<HealthInformation>
<StateFlags></StateFlags>
<HealthScore>0</HealthScore>
</HealthInformation>
<SecondsBeforeNextPoll>60</SecondsBeforeNextPoll>
<EditSessionIsDirty>false</EditSessionIsDirty>
<EditSessionHasMultipleUsers>false</EditSessionHasMultipleUsers>
</OpenWorkbookResult>
<workbookId>1.V21.214QQ/7ySliVKuAUptXrY90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.bebf895a-f22a-49d5-b8b0-
f65d01d0a3991.N</workbookId>
<outFlags>HasOpenItemPermission</outFlags>
<clientWorkbookUri>http://Contoso/Docs/Documents/Filter.xlsx</clientWorkbookUri>
</OpenWorkbookResponse>
</s:Body>
</s:Envelope>

```

Fetching the XML

Request:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<GetRange
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<parameter>
<WorkbookId>1.V21.214QQ/7ySliVKuAUptXrY90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.bebf895a-f22a-49d5-b8b0-
f65d01d0a3991.N</WorkbookId>
<StateId>1</StateId>
<VisibleSheetRangeRequest>
<SheetName>Sheet1</SheetName>
<FirstRow>0</FirstRow>
<VisibleRowsRequested>28</VisibleRowsRequested>
<FirstColumn>0</FirstColumn>
<VisibleColumnsRequested>30</VisibleColumnsRequested>
<VisibleFirstRowOffset>0</VisibleFirstRowOffset>
<VisibleFirstColumnOffset>0</VisibleFirstColumnOffset>
<NoAutoAdjustToPublishedUsedRange>true</NoAutoAdjustToPublishedUsedRange>
<NeedAllBorderValues>false</NeedAllBorderValues>
<ChartsOnly>false</ChartsOnly>
</VisibleSheetRangeRequest>
<Confirmation>Blank</Confirmation>
<ConfirmationChoice>false</ConfirmationChoice>
<ProtocolClientId>ms-ewa</ProtocolClientId>
<RequestSiteId>bebf895a-f22a-49d5-b8b0-f65d01d0a399</RequestSiteId>
<CompleteResponseTimeout>0</CompleteResponseTimeout>
<Flags></Flags>

```

```
</parameter>
</GetRange>
</s:Body>
</s:Envelope>
```

Response:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <GetRangeResponse
      xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
      <GetRangeResult>
        <StateId>1</StateId>
        <SpreadsheetData><Workbook><WorkbookOptions/><Styles><Style ID="sD"><Font Size="11"
          FontName="Calibri" Color="#000000"/></Style><Style ID="1"><Font Size="11" FontName="Calibri"
          Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="2"><Font
          Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
          Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="3"><Font Size="11" FontName="Calibri"
          Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="4"><Font
          Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
          Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="5"><Font Size="11" FontName="Calibri"
          Color="#000000"/><Alignment Horizontal="Left"/></Style><Style ID="6"><Font Size="11"
          FontName="Calibri" Color="#000000"/></Style><Style ID="7"><Font Size="11" FontName="Calibri"
          Color="#000000"/><Alignment Horizontal="Left"/></Style><Style ID="-
          1"><Borders/></Style><Style ID="bD"><Borders><Border Weight="1" Position="Right"
          LineStyle="Continuous" Color="#D0D7E5"/><Border Weight="1" Position="Bottom"
          LineStyle="Continuous" Color="#D0D7E5"/></Borders><Style ID="-3"><Borders><Border
          Weight="1" Position="Right" LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style><Style
          ID="-4"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
          Color="#D0D7E5"/></Borders></Style><Style ID="-5"><Borders><Border Weight="1"
          Position="Bottom" LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style><Style ID="-
          6"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
          Color="#D9D9D9"/><Border Weight="1" Position="Bottom" LineStyle="Continuous"
          Color="#D9D9D9"/></Borders></Style><Style ID="-7"><Borders><Border Weight="1"
          Position="Bottom" LineStyle="Continuous"
          Color="#D0D7E5"/></Borders></Style></Styles><Worksheet ActiveSheet="1"
          Name="Sheet1"><WorksheetOptions DisplayOutlines="1"/><autofilters><autofilter Row="0"
          ColFirst="0" Type="Sheet"><item Index="0" DataType="Text" Name="Customer Geography"/><item
          Index="1" Name="Internet Sales Amount"/></autofilter></autofilters><Table
          LastNonEmptyRow="54" LastNonEmptyColumn="30" CurrentFirstRow="1" FirstVisibleRow="1"
          LastVisibleRow="1048576" CurrentFirstColumn="1" FirstVisibleColumn="1"
          LastVisibleColumn="16384" SelectionTop="2" SelectionLeft="4" DefaultRowHeight="15"
          DefaultRowHeightPixels="20" DefaultColumnWidth="48" DefaultColumnWidthPixels="64"
          DefaultIndentWidth="6.75" DefaultIndentWidthPixels="9"><Column Width="116.25"
          WidthPixels="155"/><Column Width="131.25" WidthPixels="175"/><Column Width="48"
          WidthPixels="64" Span="27"/><Row Height="15" HeightPixels="20"><Cell StyleID="2" BorderID="-
          5"><Data>Customer Geography</Data></Cell><Cell StyleID="4" BorderID="-6"><Data
          xml:space="preserve"> Internet Sales Amount </Data></Cell></Row><Row Height="15"
          HeightPixels="20"><Cell StyleID="5"><Data>New South Wales</Data></Cell><Cell StyleID="7"
          FormulaBarText="3934485.7265"><Data xml:space="preserve"> $
          3,934,485.73 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
          StyleID="5"><Data>Queensland</Data></Cell><Cell StyleID="7"
          FormulaBarText="1988415.0297"><Data xml:space="preserve"> $
          1,988,415.03 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
          StyleID="5"><Data>South Australia</Data></Cell><Cell StyleID="7"
          FormulaBarText="618255.8616"><Data xml:space="preserve"> $
          618,255.86 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
          StyleID="5"><Data>Tasmania</Data></Cell><Cell StyleID="7" FormulaBarText="239937.9033"><Data
          xml:space="preserve"> $
          239,937.90 </Data></Cell></Row><Row
          Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Victoria</Data></Cell><Cell StyleID="7"
```

```

FormulaBarText="2279906.0633"><Data xml:space="preserve"> $
2,279,906.06 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Alberta</Data></Cell><Cell StyleID="7" FormulaBarText="22467.8025"><Data
xml:space="preserve"> $
22,467.80 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>British Columbia</Data></Cell><Cell
StyleID="7" FormulaBarText="1955340.0996"><Data xml:space="preserve"> $
1,955,340.10 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Ontario</Data></Cell><Cell StyleID="7" FormulaBarText="36.96"><Data
xml:space="preserve"> $
36.96 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Charente-
Maritime</Data></Cell><Cell StyleID="7" FormulaBarText="34441.7349"><Data
xml:space="preserve"> $
34,441.73 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Essonne</Data></Cell><Cell StyleID="7"
FormulaBarText="279297.1838"><Data xml:space="preserve"> $
279,297.18 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Garonne (Haute)</Data></Cell><Cell StyleID="7"
FormulaBarText="54641.7232"><Data xml:space="preserve"> $
54,641.72 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Hauts de Seine</Data></Cell><Cell StyleID="7"
FormulaBarText="263416.1854"><Data xml:space="preserve"> $
263,416.19 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Loir et Cher</Data></Cell><Cell StyleID="7"
FormulaBarText="21473.7396"><Data xml:space="preserve"> $
21,473.74 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Loiret</Data></Cell><Cell StyleID="7" FormulaBarText="91562.9056"><Data
xml:space="preserve"> $
91,562.91 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Moselle</Data></Cell><Cell StyleID="7"
FormulaBarText="94046.2295"><Data xml:space="preserve"> $
94,046.23 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Nord</Data></Cell><Cell StyleID="7" FormulaBarText="391400.2014"><Data
xml:space="preserve"> $
391,400.20 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Pas de Calais</Data></Cell><Cell
StyleID="7" FormulaBarText="11342.9225"><Data xml:space="preserve"> $
11,342.92 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Seine (Paris)</Data></Cell><Cell StyleID="7"
FormulaBarText="539725.8"><Data xml:space="preserve"> $
539,725.80 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Seine et Marne</Data></Cell><Cell StyleID="7"
FormulaBarText="109735.2384"><Data xml:space="preserve"> $
109,735.24 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Seine Saint Denis</Data></Cell><Cell StyleID="7"
FormulaBarText="379479.7479"><Data xml:space="preserve"> $
379,479.75 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Somme</Data></Cell><Cell StyleID="7" FormulaBarText="29555.2814"><Data
xml:space="preserve"> $
29,555.28 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Val de Marne</Data></Cell><Cell
StyleID="7" FormulaBarText="28478.1246"><Data xml:space="preserve"> $
28,478.12 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Val
d'Oise</Data></Cell><Cell StyleID="7" FormulaBarText="46755.9003"><Data xml:space="preserve">
$
46,755.90 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Yveline</Data></Cell><Cell StyleID="7"
FormulaBarText="268664.7958"><Data xml:space="preserve"> $
268,664.80 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Bayern</Data></Cell><Cell StyleID="7" FormulaBarText="399966.7822"><Data
xml:space="preserve"> $
399,966.78 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Brandenburg</Data></Cell><Cell
StyleID="7" FormulaBarText="119571.0799"><Data xml:space="preserve"> $
119,571.08 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Hamburg</Data></Cell><Cell StyleID="7" FormulaBarText="467219.0392"><Data
xml:space="preserve"> $
467,219.04
</Data></Cell></Row></Table></Worksheet><Worksheet Name="Sheet2"><WorksheetOptions
DisplayOutlines="1"/></Worksheet><Worksheet Name="Sheet3"><WorksheetOptions
DisplayOutlines="1"/></Worksheet></Workbook></SpreadsheetData>
<HealthInformation>
<StateFlags></StateFlags>
<HealthScore>0</HealthScore>

```

```

</HealthInformation>
<SecondsBeforeNextPoll>60</SecondsBeforeNextPoll>
<EditSessionIsDirty>>false</EditSessionIsDirty>
<EditSessionHasMultipleUsers>>false</EditSessionHasMultipleUsers>
</GetRangeResult>
</GetRangeResponse>
</s:Body>
</s:Envelope>

```

Applying the filter

Request:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<ApplyItemFilter
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<parameter>
<WorkbookId>1.V21.214QQ/7ySlivKuAuptXrY90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.bebf895a-f22a-49d5-b8b0-
f65d01d0a3991.N</WorkbookId>
<StateId>-1</StateId>
<Confirmation>Blank</Confirmation>
<ConfirmationChoice>>false</ConfirmationChoice>
<ProtocolClientId>ms-ewa</ProtocolClientId>
<RequestSiteId>bebf895a-f22a-49d5-b8b0-f65d01d0a399</RequestSiteId>
<CompleteResponseTimeout>0</CompleteResponseTimeout>
<Flags></Flags>
</parameter>
<autoFilterOptions>
<AutoFilterType>Sheet</AutoFilterType>
<CriteriaType>AboveAverage</CriteriaType>
<Id>0</Id>
<SheetName>Sheet1</SheetName>
<Column>2</Column>
<NamedObjectView>>false</NamedObjectView>
</autoFilterOptions>
<blanks>>false</blanks>
<hideBlanks>>false</hideBlanks>
</ApplyItemFilter>
</s:Body>
</s:Envelope>

```

Response:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<ApplyItemFilterResponse
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<ApplyItemFilterResult>
<StateId>2</StateId>
<HealthInformation>
<StateFlags></StateFlags>

```

```

<HealthScore>0</HealthScore>
</HealthInformation>
<SecondsBeforeNextPoll>60</SecondsBeforeNextPoll>
<EditSessionIsDirty>>false</EditSessionIsDirty>
<EditSessionHasMultipleUsers>>false</EditSessionHasMultipleUsers>
</ApplyItemFilterResult>
</ApplyItemFilterResponse>
</s:Body>
</s:Envelope>

```

Fetching the XML

Request:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<GetRange
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<parameter>
<WorkbookId>1.V21.214QQ/7ySliVKuAUptXrY90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.bebf895a-f22a-49d5-b8b0-
f65d01d0a3991.N</WorkbookId>
<StateId>2</StateId>
<VisibleSheetRangeRequest>
<SheetName>Sheet1</SheetName>
<FirstRow>0</FirstRow>
<VisibleRowsRequested>28</VisibleRowsRequested>
<FirstColumn>0</FirstColumn>
<VisibleColumnsRequested>30</VisibleColumnsRequested>
<VisibleFirstRowOffset>0</VisibleFirstRowOffset>
<VisibleFirstColumnOffset>0</VisibleFirstColumnOffset>
<NoAutoAdjustToPublishedUsedRange>>true</NoAutoAdjustToPublishedUsedRange>
<NeedAllBorderValues>>false</NeedAllBorderValues>
<ChartsOnly>>false</ChartsOnly>
</VisibleSheetRangeRequest>
<Confirmation>Blank</Confirmation>
<ConfirmationChoice>>false</ConfirmationChoice>
<ProtocolClientId>ms-ewa</ProtocolClientId>
<RequestSiteId>bebf895a-f22a-49d5-b8b0-f65d01d0a399</RequestSiteId>
<CompleteResponseTimeout>0</CompleteResponseTimeout>
<Flags></Flags>
</parameter>
</GetRange>
</s:Body>
</s:Envelope>

```

Response:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<GetRangeResponse
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<GetRangeResult>

```

```

<StateId>2</StateId>
<SpreadsheetData><Workbook><WorkbookOptions/><Styles><Style ID="sD"><Font Size="11"
FontName="Calibri" Color="#000000"/></Style><Style ID="1"><Font Size="11" FontName="Calibri"
Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="2"><Font
Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="3"><Font Size="11" FontName="Calibri"
Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="4"><Font
Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="5"><Font Size="11" FontName="Calibri"
Color="#000000"/><Alignment Horizontal="Left"/></Style><Style ID="6"><Font Size="11"
FontName="Calibri" Color="#000000"/></Style><Style ID="7"><Font Size="11" FontName="Calibri"
Color="#000000"/><Alignment Horizontal="Left"/></Style><Style ID="-
1"><Borders/></Style><Style ID="bD"><Borders><Border Weight="1" Position="Right"
LineStyle="Continuous" Color="#D0D7E5"/><Border Weight="1" Position="Bottom"
LineStyle="Continuous" Color="#D0D7E5"/></Borders></Style><Style ID="-3"><Borders><Border
Weight="1" Position="Right" LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style><Style
ID="-4"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
Color="#D0D7E5"/></Borders></Style><Style ID="-5"><Borders><Border Weight="1"
Position="Bottom" LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style><Style ID="-
6"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
Color="#D9D9D9"/><Border Weight="1" Position="Bottom" LineStyle="Continuous"
Color="#D9D9D9"/></Borders></Style><Style ID="-7"><Borders><Border Weight="1"
Position="Bottom" LineStyle="Continuous"
Color="#D0D7E5"/></Borders></Style></Styles><Worksheet ActiveSheet="1"
Name="Sheet1"><WorksheetOptions DisplayOutlines="1"/><autofilters><autofilter Row="0"
ColFirst="0" Type="Sheet"><item Index="0" DataType="Text" Name="Customer Geography"/><item
Index="1" Type="Filtered" Name=" Internet Sales Amount "
CriteriaType="AboveAverage"/></autofilter></autofilters><Table LastNonEmptyRow="70"
LastNonEmptyColumn="30" CurrentFirstRow="1" FirstVisibleRow="1" LastVisibleRow="1048576"
CurrentFirstColumn="1" FirstVisibleColumn="1" LastVisibleColumn="16384" SelectionTop="2"
SelectionLeft="4" DefaultRowHeight="15" DefaultRowHeightPixels="20" DefaultColumnWidth="48"
DefaultColumnWidthPixels="64" DefaultIndentWidth="6.75" DefaultIndentWidthPixels="9"><Column
Width="116.25" WidthPixels="155"/><Column Width="131.25" WidthPixels="175"/><Column
Width="48" WidthPixels="64" Span="27"/><Row Height="15" HeightPixels="20"><Cell StyleID="2"
BorderID="-5"><Data>Customer Geography</Data></Cell><Cell StyleID="4" BorderID="-6"><Data
xml:space="preserve"> Internet Sales Amount </Data></Cell></Row><Row Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>New South Wales</Data></Cell><Cell StyleID="7"
FormulaBarText="3934485.7265"><Data xml:space="preserve"> $
3,934,485.73 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Queensland</Data></Cell><Cell StyleID="7"
FormulaBarText="1988415.0297"><Data xml:space="preserve"> $
1,988,415.03 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>South Australia</Data></Cell><Cell StyleID="7"
FormulaBarText="618255.8616"><Data xml:space="preserve"> $
618,255.86 </Data></Cell></Row><Row Hidden="1"/><Row Index="6" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Victoria</Data></Cell><Cell StyleID="7"
FormulaBarText="2279906.0633"><Data xml:space="preserve"> $
2,279,906.06 </Data></Cell></Row><Row Hidden="1"/><Row Index="8" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>British Columbia</Data></Cell><Cell StyleID="7"
FormulaBarText="1955340.0996"><Data xml:space="preserve"> $
1,955,340.10 </Data></Cell></Row><Row Hidden="1" Span="19"/><Row Index="29" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Hessen</Data></Cell><Cell StyleID="7"
FormulaBarText="794876.0774"><Data xml:space="preserve"> $
794,876.08 </Data></Cell></Row><Row Hidden="1"/><Row Index="31" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Saarland</Data></Cell><Cell StyleID="7"
FormulaBarText="653087.484"><Data xml:space="preserve"> $
653,087.48 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>England</Data></Cell><Cell StyleID="7" FormulaBarText="3391712.2109"><Data
xml:space="preserve"> $
3,391,712.21 </Data></Cell></Row><Row
Hidden="1" Span="1"/><Row Index="35" Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>California</Data></Cell><Cell StyleID="7"
FormulaBarText="5714257.6926"><Data xml:space="preserve"> $
5,714,257.69 </Data></Cell></Row><Row Hidden="1" Span="11"/><Row Index="48" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Oregon</Data></Cell><Cell StyleID="7"
FormulaBarText="1170991.5397"><Data xml:space="preserve"> $

```

```

1,170,991.54 </Data></Cell></Row><Row Hidden="1" Span="3"/><Row Index="53" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Washington</Data></Cell><Cell StyleID="7"
FormulaBarText="2467248.3415"><Data xml:space="preserve"> $
2,467,248.34 </Data></Cell></Row><Row Hidden="1"/><Row Index="55" Height="15"
HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15"
HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15"
HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15"
HeightPixels="20"><Cell StyleID="6" Index="2"/></Row></Table></Worksheet><Worksheet
Name="Sheet2"><WorksheetOptions DisplayOutlines="1"/></Worksheet><Worksheet
Name="Sheet3"><WorksheetOptions
DisplayOutlines="1"/></Worksheet></Workbook></SpreadsheetData>
<HealthInformation>
<StateFlags></StateFlags>
<HealthScore>0</HealthScore>
</HealthInformation>
<SecondsBeforeNextPoll>60</SecondsBeforeNextPoll>
<EditSessionIsDirty>>false</EditSessionIsDirty>
<EditSessionHasMultipleUsers>>false</EditSessionHasMultipleUsers>
</GetRangeResult>
</GetRangeResponse>
</s:Body>
</s:Envelope>

```

Applying the sort

Request:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<SortFilterColumn
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<parameter>
<WorkbookId>1.V21.214QQ/7ySliVKuAUptXrY90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#0000#0000-03-00-02T02:00:00:0000#-006036.bebf895a-f22a-49d5-b8b0-
f65d01d0a3991.N</WorkbookId>
<StateId>-1</StateId>
<Confirmation>Blank</Confirmation>
<ConfirmationChoice>>false</ConfirmationChoice>
<ProtocolClientId>ms-ewa</ProtocolClientId>
<RequestSiteId>bebf895a-f22a-49d5-b8b0-f65d01d0a399</RequestSiteId>
<CompleteResponseTimeout>0</CompleteResponseTimeout>
<Flags></Flags>
</parameter>
<autoFilterOptions>
<AutoFilterType>Sheet</AutoFilterType>
<CriteriaType>Nil</CriteriaType>
<Id>0</Id>
<SheetName>Sheet1</SheetName>
<Column>2</Column>
<NamedObjectView>>false</NamedObjectView>

```

```
</autoFilterOptions>
<ascending>true</ascending>
</SortFilterColumn>
</s:Body>
</s:Envelope>
```

Response:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<SortFilterColumnResponse
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<SortFilterColumnResult>
<StateId>3</StateId>
<HealthInformation>
<StateFlags></StateFlags>
<HealthScore>0</HealthScore>
</HealthInformation>
<SecondsBeforeNextPoll>60</SecondsBeforeNextPoll>
<EditSessionIsDirty>>false</EditSessionIsDirty>
<EditSessionHasMultipleUsers>>false</EditSessionHasMultipleUsers>
</SortFilterColumnResult>
</SortFilterColumnResponse>
</s:Body>
</s:Envelope>
```

Fetching the XML

Request:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<GetRange
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<parameter>
<WorkbookId>1.V21.214QQ/7ySliVKuAUptXrY90.5.en-US5.en-US73.+0480#0000-11-00-
01T02:00:00:0000#+0000#0000-03-00-02T02:00:00:0000#-006036.bebf895a-f22a-49d5-b8b0-
f65d01d0a3991.N</WorkbookId>
<StateId>3</StateId>
<VisibleSheetRangeRequest>
<SheetName>Sheet1</SheetName>
<FirstRow>0</FirstRow>
<VisibleRowsRequested>28</VisibleRowsRequested>
<FirstColumn>0</FirstColumn>
<VisibleColumnsRequested>30</VisibleColumnsRequested>
<VisibleFirstRowOffset>0</VisibleFirstRowOffset>
<VisibleFirstColumnOffset>0</VisibleFirstColumnOffset>
<NoAutoAdjustToPublishedUsedRange>>true</NoAutoAdjustToPublishedUsedRange>
<NeedAllBorderValues>>false</NeedAllBorderValues>
<ChartsOnly>>false</ChartsOnly>
</VisibleSheetRangeRequest>
<Confirmation>Blank</Confirmation>
<ConfirmationChoice>>false</ConfirmationChoice>
```



```

<ProtocolClientId>ms-ewa</ProtocolClientId>
<RequestSiteId>b2ebf895a-f22a-49d5-b8b0-f65d01d0a399</RequestSiteId>
<CompleteResponseTimeout>0</CompleteResponseTimeout>
<Flags></Flags>
</parameter>
</GetRange>
</s:Body>
</s:Envelope>

```

Response:

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<GetRangeResponse
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/">
<GetRangeResult>
<StateId>3</StateId>
<SpreadsheetData><Workbook><WorkbookOptions/><Styles><Style ID="sD"><Font Size="11"
FontName="Calibri" Color="#000000"/></Style><Style ID="1"><Font Size="11" FontName="Calibri"
Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="2"><Font
Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="3"><Font Size="11" FontName="Calibri"
Color="#000000"/><Interior Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="4"><Font
Size="11" FontName="Calibri" Color="#000000"/><Alignment Horizontal="Left"/><Interior
Color="#D9D9D9" Pattern="Solid"/></Style><Style ID="5"><Font Size="11" FontName="Calibri"
Color="#000000"/><Alignment Horizontal="Left"/></Style><Style ID="6"><Font Size="11"
FontName="Calibri" Color="#000000"/></Style><Style ID="7"><Font Size="11" FontName="Calibri"
Color="#000000"/><Alignment Horizontal="Left"/></Style><Style ID="-
1"><Borders/></Style><Style ID="bD"><Borders><Border Weight="1" Position="Right"
LineStyle="Continuous" Color="#D0D7E5"/><Border Weight="1" Position="Bottom"
LineStyle="Continuous" Color="#D0D7E5"/></Borders></Style><Style ID="-3"><Borders><Border
Weight="1" Position="Right" LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style><Style
ID="-4"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
Color="#D0D7E5"/></Borders></Style><Style ID="-5"><Borders><Border Weight="1"
Position="Bottom" LineStyle="Continuous" Color="#D9D9D9"/></Borders></Style><Style ID="-
6"><Borders><Border Weight="1" Position="Right" LineStyle="Continuous"
Color="#D9D9D9"/><Border Weight="1" Position="Bottom" LineStyle="Continuous"
Color="#D9D9D9"/></Borders></Style><Style ID="-7"><Borders><Border Weight="1"
Position="Bottom" LineStyle="Continuous"
Color="#D0D7E5"/></Borders></Style><Worksheet ActiveSheet="1"
Name="Sheet1"><WorksheetOptions DisplayOutlines="1"/><autofilters><autofilter Row="0"
ColFirst="0" Type="Sheet"><item Index="0" DataType="Text" Name="Customer Geography"/><item
Index="1" Type="BothAsc" Name="Internet Sales Amount"
CriteriaType="AboveAverage"/></autofilter></autofilters><Table LastNonEmptyRow="70"
LastNonEmptyColumn="30" CurrentFirstRow="1" FirstVisibleRow="1" LastVisibleRow="1048576"
CurrentFirstColumn="1" FirstVisibleColumn="1" LastVisibleColumn="16384" SelectionTop="2"
SelectionLeft="4" DefaultRowHeight="15" DefaultRowHeightPixels="20" DefaultColumnWidth="48"
DefaultColumnWidthPixels="64" DefaultIndentWidth="6.75" DefaultIndentWidthPixels="9"><Column
Width="116.25" WidthPixels="155"/><Column Width="131.25" WidthPixels="175"/><Column
Width="48" WidthPixels="64" Span="27"/><Row Height="15" HeightPixels="20"><Cell StyleID="2"
BorderID="-5"><Data>Customer Geography</Data></Cell><Cell StyleID="4" BorderID="-6"><Data
xml:space="preserve"> Internet Sales Amount </Data></Cell></Row><Row Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>South Australia</Data></Cell><Cell StyleID="7"
FormulaBarText="618255.8616"><Data xml:space="preserve"> $
618,255.86 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Saarland</Data></Cell><Cell StyleID="7" FormulaBarText="653087.484"><Data
xml:space="preserve"> $
653,087.48 </Data></Cell></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="5"><Data>Hessen</Data></Cell><Cell StyleID="7"
FormulaBarText="794876.0774"><Data xml:space="preserve"> $
794,876.08 </Data></Cell></Row><Row Hidden="1"/><Row Index="6" Height="15"

```

```

HeightPixels="20"><Cell StyleID="5"><Data>Oregon</Data></Cell><Cell StyleID="7"
FormulaBarText="1170991.5397"><Data xml:space="preserve"> $
1,170,991.54 </Data></Cell></Row><Row Hidden="1"/><Row Index="8" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>British Columbia</Data></Cell><Cell StyleID="7"
FormulaBarText="1955340.0996"><Data xml:space="preserve"> $
1,955,340.10 </Data></Cell></Row><Row Hidden="1" Span="19"/><Row Index="29" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Queensland</Data></Cell><Cell StyleID="7"
FormulaBarText="1988415.0297"><Data xml:space="preserve"> $
1,988,415.03 </Data></Cell></Row><Row Hidden="1"/><Row Index="31" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>Victoria</Data></Cell><Cell StyleID="7"
FormulaBarText="2279906.0633"><Data xml:space="preserve"> $
2,279,906.06 </Data></Cell></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="5"><Data>Washington</Data></Cell><Cell StyleID="7"
FormulaBarText="2467248.3415"><Data xml:space="preserve"> $
2,467,248.34 </Data></Cell></Row><Row Hidden="1" Span="1"/><Row Index="35" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>England</Data></Cell><Cell StyleID="7"
FormulaBarText="3391712.2109"><Data xml:space="preserve"> $
3,391,712.21 </Data></Cell></Row><Row Hidden="1" Span="11"/><Row Index="48" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>New South Wales</Data></Cell><Cell StyleID="7"
FormulaBarText="3934485.7265"><Data xml:space="preserve"> $
3,934,485.73 </Data></Cell></Row><Row Hidden="1" Span="3"/><Row Index="53" Height="15"
HeightPixels="20"><Cell StyleID="5"><Data>California</Data></Cell><Cell StyleID="7"
FormulaBarText="5714257.6926"><Data xml:space="preserve"> $
5,714,257.69 </Data></Cell></Row><Row Hidden="1"/><Row Index="55" Height="15"
HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row
Height="15" HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15"
HeightPixels="20"><Cell StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell
StyleID="6" Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row><Row Height="15" HeightPixels="20"><Cell StyleID="6"
Index="2"/></Row></Table></Worksheet><Worksheet
Name="Sheet2"><WorksheetOptions DisplayOutlines="1"/></Worksheet><Worksheet
Name="Sheet3"><WorksheetOptions
DisplayOutlines="1"/></Worksheet></Workbook></SpreadsheetData>
<HealthInformation>
<StateFlags></StateFlags>
<HealthScore>0</HealthScore>
</HealthInformation>
<SecondsBeforeNextPoll>60</SecondsBeforeNextPoll>
<EditSessionIsDirty>>false</EditSessionIsDirty>
<EditSessionHasMultipleUsers>>false</EditSessionHasMultipleUsers>
</GetRangeResult>
</GetRangeResponse>
</s:Body>
</s:Envelope>

```

5 Security

5.1 Security Considerations for Implementers

In addition to the security considerations applicable to the underlying protocols, there are security risks associated with exposing session identifiers (2). If the session identifier is exposed, then it is possible for an attacker to read information from, or modify data in, a session on the protocol server. An implementer of this protocol needs to consider keeping session identifiers protected. There could be some cases where it is desirable to expose the session identifier, however, an implementer is 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 as follows.

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions
  xmlns:i0="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/"
  name="ExcelServiceSoap"
  targetNamespace="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema attributeFormDefault="unqualified" elementFormDefault="qualified"
      targetNamespace="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/"
      xmlns:xs="http://www.w3.org/2001/XMLSchema">
      <xs:import namespace="http://microsoft.com/wsdl/types/" />
      <xs:element name="OpenWorkbook">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="url" type="xs:string" />
            <xs:element minOccurs="1" maxOccurs="1" name="flags" type="tns:OpenWorkbookFlags" />
          </xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="parameter" type="tns:CommandParameter" />
          <xs:element minOccurs="0" maxOccurs="1" name="cultureParameter" type="tns:CultureCommandParameter" />
          <xs:element minOccurs="0" maxOccurs="1" name="subscriberId" type="xs:string" />
        </xs:complexType>
      </xs:element>
      <xs:simpleType name="OpenWorkbookFlags">
        <xs:list>
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:enumeration value="NewWorkbook" />
              <xs:enumeration value="EditMode" />
              <xs:enumeration value="DisableUndo" />
              <xs:enumeration value="Recyclable" />
            </xs:restriction>
          </xs:simpleType>
        </xs:list>
      </xs:simpleType>
      <xs:complexType name="CommandParameter">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="WorkbookId" type="xs:string" />
          <xs:element minOccurs="1" maxOccurs="1" name="StateId" type="xs:int" />
          <xs:element minOccurs="0" maxOccurs="1" name="VisibleSheetRangeRequest" type="tns:VisibleSheetRange" />
          <xs:element minOccurs="0" maxOccurs="1" name="WorkOnBehalfRequest" type="tns:WorkOnBehalf" />
          <xs:element minOccurs="1" maxOccurs="1" name="Confirmation" type="tns:ExcelServerMessageId" />
          <xs:element minOccurs="1" maxOccurs="1" name="ConfirmationChoice" type="xs:boolean" />
          <xs:element minOccurs="0" maxOccurs="1" name="ProtocolClientId" type="xs:string" />
          <xs:element minOccurs="0" maxOccurs="1" name="UserFriendlyDisplayName" type="xs:string" />
        </xs:sequence>
      </xs:complexType>
    </xs:schema>
  </wsdl:types>

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="Zone" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="PreviousOwnerId" type="xs:string" />
        <xs:element xmlns:ql="http://microsoft.com/wsdl/types/" minOccurs="1" maxOccurs="1"
name="RequestSiteId" type="ql:guid" />
        <xs:element minOccurs="0" maxOccurs="1" name="RequestId" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="CompleteResponseTimeout"
type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="Flags"
type="tns:CommandParameterFlags" />
        <xs:element minOccurs="0" maxOccurs="1" name="RequestLimits"
type="tns:RequestLimits" />
        <xs:element minOccurs="0" maxOccurs="1" name="CollaborationParameter"
type="tns:CollaborationParameter" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="VisibleSheetRange">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="ObjectName" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="ExcelRange" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="FirstRow" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="VisibleRowsRequested" type="xs:int"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="FirstColumn" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="VisibleColumnsRequested"
type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="VisibleFirstRowOffset" type="xs:int"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="VisibleFirstColumnOffset"
type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="NoAutoAdjustToPublishedUsedRange"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="CalculateVisibleOffsetFromOrigin"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="NeedAllBorderValues"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="ChartsOnly" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="WorkOnBehalf">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="UserName" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="UserSid" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="UserToken" type="xs:base64Binary" />
        <xs:element minOccurs="1" maxOccurs="1" name="UserTokenTtl" type="xs:int" />
    </xs:sequence>
</xs:complexType>
<xs:simpleType name="ExcelServerMessageId">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Blank" />
        <xs:enumeration value="InternalError" />
        <xs:enumeration value="NotMemberOfRole" />
        <xs:enumeration value="EncryptionTooLow" />
        <xs:enumeration value="ConfirmDataRefresh" />
        <xs:enumeration value="ExternalDataRefreshFailed" />
        <xs:enumeration value="ExternalDataRefreshFailedReal" />
        <xs:enumeration value="ExternalDataRefreshFailedReadOrViewOnly" />
        <xs:enumeration value="NoAccessToOdcReadOrViewOnly" />
        <xs:enumeration value="ErrorConnectingToDataSourceReadOrViewOnly" />
        <xs:enumeration value="InvalidUserNameOrPasswordReadOrViewOnly" />
    </xs:restriction>
</xs:simpleType>

```

```

<xs:enumeration value="InvalidUserNameOrPassword" />
<xs:enumeration value="ExternalDataNotAllowedOnTL" />
<xs:enumeration value="InvalidUriOrLocalConnectionPath" />
<xs:enumeration value="DclNotTrusted" />
<xs:enumeration value="OdcFileDoesNotExist" />
<xs:enumeration value="ErrorAccessingSsoFromEcs" />
<xs:enumeration value="SsoError" />
<xs:enumeration value="ErrorConnectingToDataSource" />
<xs:enumeration value="UnattendedAccountNotConfigured" />
<xs:enumeration value="IncorrectAuthUsed" />
<xs:enumeration value="ExternalDataRefreshFailed_Details" />
<xs:enumeration value="PivotNoOverlapAllowed" />
<xs:enumeration value="PivotOverlapList" />
<xs:enumeration value="PivotCubeNotUnique" />
<xs:enumeration value="NoDataItemsOlap" />
<xs:enumeration value="OlapSchemaFail" />
<xs:enumeration value="InvalidPivot" />
<xs:enumeration value="OlapNoMoreDetail" />
<xs:enumeration value="DrillActionInvalid" />
<xs:enumeration value="DriverNotOlap" />
<xs:enumeration value="CubeMissing" />
<xs:enumeration value="SkipLine" />
<xs:enumeration value="CDimMismatch" />
<xs:enumeration value="DataSetAxisTooBig" />
<xs:enumeration value="CubeIntegrityError" />
<xs:enumeration value="PivotNotExpandedtoProtectCellContents" />
<xs:enumeration value="PivotTruncatedSheetEdge" />
<xs:enumeration value="DdlGrpNotSup" />
<xs:enumeration value="PivotFormulasCollided" />
<xs:enumeration value="NoRetItems" />
<xs:enumeration value="OlapConnectVisualModeProvider" />
<xs:enumeration value="PivotNoSourceData" />
<xs:enumeration value="PivotFilteringError" />
<xs:enumeration value="PivotTableIncorrectDateFormat" />
<xs:enumeration value="PivotTableEndingLargerThanStarting" />
<xs:enumeration value="PivotTableIncorrectNumberFormat" />
<xs:enumeration value="PivotTableOutOfRange" />
<xs:enumeration value="MergedCellOverlap" />
<xs:enumeration value="PivotSourceNotAvailable" />
<xs:enumeration value="UnexpectedPivotError" />
<xs:enumeration value="EditModeCannotAcquireLockUnknownReason" />
<xs:enumeration value="EditModeCannotAcquireLock" />
<xs:enumeration value="EditModeCannotAcquireLockUnknownUser" />
<xs:enumeration value="EditModeWorkbookCheckedOutRequired" />
<xs:enumeration value="EditModeWorkbookCheckedOutToLocalDrafts" />
<xs:enumeration value="SiteTooBusy" />
<xs:enumeration value="SiteCollectionMemoryQuotaExceeded" />
<xs:enumeration value="SessionMemoryQuotaExceeded" />
<xs:enumeration value="SiteCollectionChartQuotaExceeded" />
<xs:enumeration value="RequestLimitsExceeded" />
<xs:enumeration value="SavingUnsupportedInViewMode" />
<xs:enumeration value="SavingWorkbookNoWorkbookName" />
<xs:enumeration value="FileSaveGeneric" />
<xs:enumeration value="SavingWorkbookInvalidPermissions" />
<xs:enumeration value="SavingWorkbookLockedOrCheckedOut" />
<xs:enumeration value="SavingWorkbookNotCheckedOut" />
<xs:enumeration value="SavingWorkbookAccessDenied" />
<xs:enumeration value="SavingWorkbookInvalidFileType" />
<xs:enumeration value="SavingWorkbookFileNameExists" />

```

```

<xs:enumeration value="HostedSavingWorkbookFileNameExists" />
<xs:enumeration value="HostedSavingWorkbookInvalidFileName" />
<xs:enumeration value="SavingWorkbookNotTrustedLocation" />
<xs:enumeration value="SavingWorkbookInvalidLocation" />
<xs:enumeration value="SavingWorkbookInvalidFileName" />
<xs:enumeration value="SavingWorkbookTrustedLocationSettingWarning" />
<xs:enumeration value="SavingWorkbookAlmostTooLarge" />
<xs:enumeration value="SavingWorkbookTooLarge" />
<xs:enumeration value="NewWorkbookInvalidLocation" />
<xs:enumeration value="FileOpenSecuritySettings" />
<xs:enumeration value="FileOpenNotFound" />
<xs:enumeration value="FileOpenAccessDenied" />
<xs:enumeration value="FileCorrupt" />
<xs:enumeration value="OpenWorkbookTooLarge" />
<xs:enumeration value="OpenWorkbookLocationNotTrusted" />
<xs:enumeration value="OpenWorkbookAccessDenied" />
<xs:enumeration value="WorkbookNotSupported" />
<xs:enumeration value="WorkbookNotSupportedViewRight" />
<xs:enumeration value="UnsupportedFeatureViewWarning" />
<xs:enumeration value="UnsupportedFeatureSaveCopyWarning" />
<xs:enumeration value="ExternalWorkbookLinksDisabled" />
<xs:enumeration value="WorkbookLockedRead" />
<xs:enumeration value="EditModeCannotEditNonSharePointWorkbook" />
<xs:enumeration value="EditModeAccessDenied" />
<xs:enumeration value="GenericFileOpenError" />
<xs:enumeration value="IRMedWorkbook" />
<xs:enumeration value="ParameterInvalid" />
<xs:enumeration value="ParameterLimitExceeded" />
<xs:enumeration value="WorkbookInternalLimit" />
<xs:enumeration value="OldFormatConversionFailed" />
<xs:enumeration value="EditModeWorkbookExternalData" />
<xs:enumeration value="FormulaEditingNotEnabled" />
<xs:enumeration value="DimensionMismatch" />
<xs:enumeration value="SetRangeFailure" />
<xs:enumeration value="ObjectTypeNotSupported" />
<xs:enumeration value="ParameterDoesNotExist" />
<xs:enumeration value="FormulaParseFailed" />
<xs:enumeration value="SetParameterFailure" />
<xs:enumeration value="CannotEditPivotTable" />
<xs:enumeration value="InsDelCellsNonblankCells" />
<xs:enumeration value="InsDelCellsArrayFmla" />
<xs:enumeration value="InsDelCellsPivotTable" />
<xs:enumeration value="InsDelCellsTable" />
<xs:enumeration value="InsDelCellsMergedCells" />
<xs:enumeration value="InsDelCellsDatatable" />
<xs:enumeration value="InsDelCellsRowsForWholeColumn" />
<xs:enumeration value="InsDelCellsColumnsForWholeRow" />
<xs:enumeration value="InvalidSheetName" />
<xs:enumeration value="RangeParseError" />
<xs:enumeration value="SpecifiedRangeNotFound" />
<xs:enumeration value="RangeDefinitionError" />
<xs:enumeration value="DiscontiguousRangeNotSupported" />
<xs:enumeration value="RangeRequestAreaExceeded" />
<xs:enumeration value="SheetRangeMismatch" />
<xs:enumeration value="ImageGenFailed" />
<xs:enumeration value="ApiInvalidArgument" />
<xs:enumeration value="ApiInvalidCoordinate" />
<xs:enumeration value="ConfirmationUnsupported" />
<xs:enumeration value="ApiInvalidDimensionReturned" />

```

```

<xs:enumeration value="ApiMissingSiteContext" />
<xs:enumeration value="Ewr_IllegalPageSize" />
<xs:enumeration value="Ewr_WorkbookNotSpecified" />
<xs:enumeration value="Ewr_LoadProgress" />
<xs:enumeration value="Ewr_FileCorrupt" />
<xs:enumeration value="Ewr_WorkbookNotSupported" />
<xs:enumeration value="Ewr_GenericFileOpenError" />
<xs:enumeration value="Ewr_InvalidParameterGeneric" />
<xs:enumeration value="Ewr_InvalidParameterMandatoryMissing" />
<xs:enumeration value="Ewr_InvalidParameterUnexpectedFormat" />
<xs:enumeration value="Ewr_InvalidParameterOutOfRange" />
<xs:enumeration value="Ewr_InvalidParameterOperationNotAllowed" />
<xs:enumeration value="Ewr_ParameterInvalid" />
<xs:enumeration value="Ewr_ParameterLimitExceeded" />
<xs:enumeration value="Ewr_ParameterDoesNotExist" />
<xs:enumeration value="Ewr_SetParameterFailure" />
<xs:enumeration value="Ewr_SetParameterFailureOnOpen" />
<xs:enumeration value="Ewr_ParameterReadFromDocPropsError" />
<xs:enumeration value="Ewr_FormulaEditingNotEnabled" />
<xs:enumeration value="Ewr_InvalidVisibleItem" />
<xs:enumeration value="Ewr_EditSaveAsOverCurrentWorkbook" />
<xs:enumeration value="Ewr_RequestTimedOut" />
<xs:enumeration value="Ewr_ServerCommunicationError" />
<xs:enumeration value="Ewr_ServerAuthenticationError" />
<xs:enumeration value="Ewr_Top10InvalidValue" />
<xs:enumeration value="Ewr_Top10InvalidValue_Float" />
<xs:enumeration value="Mewa_PageStateInitFailed" />
<xs:enumeration value="Mewa_CriticalParameterMissing" />
<xs:enumeration value="Mewa_GridViewRenderingFailed" />
<xs:enumeration value="Mewa_FeatureNotActive" />
<xs:enumeration value="OperationNotSupportedInViewOnly" />
<xs:enumeration value="OperationOnInvalidState" />
<xs:enumeration value="InvalidOrTimedOutSession" />
<xs:enumeration value="InvalidOrTimedOutSessionPageRefresh" />
<xs:enumeration value="ScratchPadChangesLost" />
<xs:enumeration value="MaxSessionsPerUserExceeded" />
<xs:enumeration value="OperationCanceled" />
<xs:enumeration value="MaxRequestDurationExceeded" />
<xs:enumeration value="NoOccurrencesFound" />
<xs:enumeration value="EcsInvalidNamedObject" />
<xs:enumeration value="NoPublishedItems" />
<xs:enumeration value="RetryError" />
<xs:enumeration value="StopOpenOnRefreshFailure" />
<xs:enumeration value="ProductExpired" />
<xs:enumeration value="SortActionInvalid" />
<xs:enumeration value="SortActionNotSupportedWithPivot" />
<xs:enumeration value="CircularReferencesFound" />
<xs:enumeration value="SessionNotFound" />
<xs:enumeration value="NewWorkbookSessionTimeout" />
<xs:enumeration value="EditXLSFile" />
<xs:enumeration value="UnsupportedFeatureEditWarning" />
<xs:enumeration value="EditModeSessionExists" />
<xs:enumeration value="NewerWorkbookExists" />
<xs:enumeration value="ExternalDataOfficeLive" />
<xs:enumeration value="LostAuthentication" />
<xs:enumeration value="ListEntryNotFound_1" />
<xs:enumeration value="ListEntryNotFound_2" />
<xs:enumeration value="ListEntryAlreadyExists_1" />
<xs:enumeration value="ListEntryAlreadyExists_2" />

```



```

    <xs:enumeration value="InvalidArgumentValue" />
    <xs:enumeration value="MissingArgumentName" />
    <xs:enumeration value="InvalidArgumentName" />
    <xs:enumeration value="ArgumentBadInRemove" />
    <xs:enumeration value="ManagementUIListEntryAlreadyExists" />
    <xs:enumeration value="ManagementUIListEntryNotFound" />
    <xs:enumeration value="ManagementUIInternalError" />
    <xs:enumeration value="UnsupportedUICulture" />
    <xs:enumeration value="UnsupportedDataCulture" />
    <xs:enumeration value="SpecifiedItemNotFound" />
    <xs:enumeration value="EcsSnapshotAccessDenied" />
    <xs:enumeration value="SaveFailed" />
    <xs:enumeration value="WrongEcs" />
    <xs:enumeration value="PasteDataLimitHit" />
    <xs:enumeration value="UndoStackEmpty" />
    <xs:enumeration value="RedoStackEmpty" />
    <xs:enumeration value="UndoRedoCollabFail" />
    <xs:enumeration value="HyperlinkLocationRequired" />
    <xs:enumeration value="CollabLocaleMismatch" />
    <xs:enumeration value="LocaleRestored" />
    <xs:enumeration value="InvalidEditSession" />
    <xs:enumeration value="InvalidEditSessionPageRefresh" />
    <xs:enumeration value="InvalidEditSessionId" />
    <xs:enumeration value="UnableToLoadEditSession" />
    <xs:enumeration value="SavingWorkbookFailed" />
    <xs:enumeration value="RefreshLockFailed" />
    <xs:enumeration value="InvalidChartName" />
    <xs:enumeration value="RetryOutOfSync" />
    <xs:enumeration value="OperationFailed" />
    <xs:enumeration value="OpenInExcelActiveXError" />
    <xs:enumeration value="OpenInExcelClientIntegrationDisabled" />
    <xs:enumeration value="ProcessingUserChangesFileDownloadIgnored" />
    <xs:enumeration value="PhoneticDataLossWarning" />
    <xs:enumeration value="Count" />
  </xs:restriction>
</xs:simpleType>
</xs:simpleType>
<xs:simpleType name="CommandParameterFlags">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="ForceOneTimeRecalc" />
        <xs:enumeration value="SuppressOneTimeRecalc" />
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
<xs:complexType name="RequestLimits">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="CellCount" nillable="true"
type="xs:long" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="CollaborationParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="CollaborationState"
type="tns:CollaborationState" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="CollaborationState">

```

```

    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="UserListVersion" type="xs:int" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="CultureCommandParameter">
    <xs:sequence>
      <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="0" maxOccurs="1" name="SharePointDataCultureName"
type="xs:string" />
      <xs:element minOccurs="0" maxOccurs="1" name="TimeZoneSerialization"
type="xs:string" />
    </xs:sequence>
  </xs:complexType>
  <xs:element name="OpenWorkbookResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="OpenWorkbookResult"
type="tns:CommandResult" />
        <xs:element minOccurs="0" maxOccurs="1" name="workbookId" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="outFlags"
type="tns:OpenWorkbookOutFlags" />
        <xs:element minOccurs="0" maxOccurs="1" name="outParameters"
type="tns:OpenWorkbookOutParameters" />
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="CommandResult">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="TransientEditSessionToken"
type="xs:string" />
      <xs:element minOccurs="1" maxOccurs="1" name="StateId" type="xs:int" />
      <xs:element minOccurs="0" maxOccurs="1" name="SpreadsheetData" type="xs:string" />
      <xs:element minOccurs="0" maxOccurs="1" name="ExtendedInfo"
type="tns:CommandResultExtendedInfo" />
      <xs:element minOccurs="0" maxOccurs="1" name="PeriodicRefreshInfo"
type="tns:PeriodicRefreshInfo" />
      <xs:element minOccurs="0" maxOccurs="1" name="HealthInformation"
type="tns:ServerHealthInformation" />
      <xs:element minOccurs="1" maxOccurs="1" name="SecondsBeforeNextPoll" type="xs:int"
/>
      <xs:element minOccurs="1" maxOccurs="1" name="EditSessionIsDirty" type="xs:boolean"
/>
      <xs:element minOccurs="1" maxOccurs="1"
name="EditSessionHasMultipleCollaborationUsers" type="xs:boolean" />
      <xs:element minOccurs="0" maxOccurs="1" name="RequestId" type="xs:string" />
      <xs:element minOccurs="0" maxOccurs="1" name="CollaborationResult"
type="tns:CollaborationResult" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="CommandResultExtendedInfo">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="Messages"
type="tns:ArrayOfExcelServerMessage" />
      <xs:element minOccurs="1" maxOccurs="1" name="WarnOnManualDataRefresh"
type="xs:boolean" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ArrayOfExcelServerMessage">
    <xs:sequence>

```

```

        <xs:element minOccurs="0" maxOccurs="unbounded" name="ExcelServerMessage"
nillable="true" type="tns:ExcelServerMessage" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ExcelServerMessage">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="HasOpenItemPermission"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="Id" type="tns:ExcelServerMessageId"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="Severity"
type="tns:ExcelServerMessageSeverity" />
        <xs:element minOccurs="1" maxOccurs="1" name="Type"
type="tns:ExcelServerMessageType" />
        <xs:element minOccurs="1" maxOccurs="1" name="Appearance"
type="tns:ExcelServerMessageAppearance" />
        <xs:element minOccurs="0" maxOccurs="1" name="Description" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="ExtendedDescription" type="xs:string"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="Caption" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="HelpTopicId" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="HelpDisplayText" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="HealthInformation"
type="tns:ServerHealthInformation" />
        <xs:element minOccurs="0" maxOccurs="1" name="WrongEcsServerId" type="xs:string" />
    </xs:sequence>
</xs:complexType>
<xs:simpleType name="ExcelServerMessageSeverity">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Error" />
        <xs:enumeration value="Warning" />
        <xs:enumeration value="Information" />
        <xs:enumeration value="Progress" />
        <xs:enumeration value="GettingStarted" />
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ExcelServerMessageType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Alert" />
        <xs:enumeration value="Status" />
        <xs:enumeration value="Confirmation" />
    </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ExcelServerMessageAppearance">
    <xs:list>
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:enumeration value="None" />
                <xs:enumeration value="OK" />
                <xs:enumeration value="Cancel" />
                <xs:enumeration value="Yes" />
                <xs:enumeration value="No" />
                <xs:enumeration value="Notification" />
            </xs:restriction>
        </xs:simpleType>
    </xs:list>
</xs:simpleType>
<xs:complexType name="ServerHealthInformation">
    <xs:sequence>

```

```

        <xs:element minOccurs="1" maxOccurs="1" name="StateFlags"
type="tns:ServerStateFlags" />
        <xs:element minOccurs="1" maxOccurs="1" name="HealthScore" type="xs:float" />
    </xs:sequence>
</xs:complexType>
<xs:simpleType name="ServerStateFlags">
    <xs:list>
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:enumeration value="ShuttingDown" />
            </xs:restriction>
        </xs:simpleType>
    </xs:list>
</xs:simpleType>
<xs:complexType name="PeriodicRefreshInfo">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="ExpirationTime" type="xs:int" />
        <xs:element minOccurs="0" maxOccurs="1" name="ConnectionNames"
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:complexType name="CollaborationResult">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="CollaborationState"
type="tns:CollaborationState" />
        <xs:element minOccurs="0" maxOccurs="1" name="Users"
type="tns:ArrayOfPresenceUserInfo" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfPresenceUserInfo">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="PresenceUserInfo"
nillable="true" type="tns:PresenceUserInfo" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="PresenceUserInfo">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="User" type="tns:PresenceUserId" />
        <xs:element minOccurs="0" maxOccurs="1" name="UserColor" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="NumberOfTimesInSession" type="xs:int"
/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="PresenceUserId">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="UserName" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsApiUser" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>
<xs:simpleType name="OpenWorkbookOutFlags">
    <xs:list>
        <xs:simpleType>
            <xs:restriction base="xs:string">

```

```

        <xs:enumeration value="ViewOnly" />
        <xs:enumeration value="HasOpenItemPermission" />
        <xs:enumeration value="HasEditItemPermission" />
        <xs:enumeration value="RequiresCheckout" />
        <xs:enumeration value="Biff8Format" />
        <xs:enumeration value="HasUnsupportedFeatures" />
    </xs:restriction>
</xs:simpleType>
</xs:list>
</xs:simpleType>
<xs:complexType name="OpenWorkbookOutParameters">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="ClientWorkbookUri" type="xs:string"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="WorkbookFileName" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="PrivacyUri" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="TermsUri" type="xs:string" />
    </xs:sequence>
</xs:complexType>
<xs:element name="CloseWorkbook">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="1" maxOccurs="1" name="forceSync" type="xs:boolean" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="CloseWorkbookResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="CloseWorkbookResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SaveWorkbook">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SaveWorkbookResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="SaveWorkbookResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SaveWorkbookAs">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="location" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

        <xs:element minOccurs="1" maxOccurs="1" name="workbookType"
type="tns:WorkbookType" />
        <xs:element minOccurs="1" maxOccurs="1" name="flags" type="tns:SaveAsFlags" />
    </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="SaveAsFlags">
    <xs:list>
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:enumeration value="OverwriteExistingFile" />
                <xs:enumeration value="WarnWhenCrossingTrustedLocation" />
            </xs:restriction>
        </xs:simpleType>
    </xs:list>
</xs:simpleType>
<xs:element name="SaveWorkbookAsResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="SaveWorkbookAsResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="savedWorkbookUri" type="xs:string"
/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ParseRange">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="rangeToParse" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ParseRangeResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ParseRangeResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"
/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SheetRange">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="FirstRow" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="LastRow" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="FirstColumn" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="LastColumn" type="xs:int" />
    </xs:sequence>
</xs:complexType>

```

```

        </xs:sequence>
    </xs:complexType>
    <xs:element name="GetRange">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetRangeResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="GetRangeResult"
type="tns:CommandResult" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetRangeValues">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"
/>
                <xs:element minOccurs="1" maxOccurs="1" name="formatted" type="xs:boolean" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetRangeValuesResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="GetRangeValuesResult"
type="tns:CommandResult" />
                <xs:element minOccurs="0" maxOccurs="1" name="cellValues"
type="tns:ArrayOfAnyType" />
            </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:element name="GetRangeValuesA1">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <xs:element minOccurs="0" maxOccurs="1" name="rangeRequests"
type="tns:ArrayOfRangeValuesA1" />
                <xs:element minOccurs="1" maxOccurs="1" name="formatting"
type="tns:CellDataFormat" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="ArrayOfRangeValuesA1">
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="unbounded" name="RangeValuesA1"
nillable="true" type="tns:RangeValuesA1" />
        </xs:sequence>
    </xs:complexType>

```

```

    </xs:sequence>
</xs:complexType>
<xs:complexType name="RangeValuesA1">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="RangeName" type="xs:string" />
    <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string" />
    <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfAnyType" />
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="CellDataFormat">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="Formatted" />
        <xs:enumeration value="Unformatted" />
        <xs:enumeration value="Compound" />
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
<xs:element name="GetRangeValuesA1Response">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetRangeValuesA1Result"
type="tns:CommandResult" />
      <xs:element minOccurs="0" maxOccurs="1" name="rangeRequests"
type="tns:ArrayOfRangeValuesA1" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetRange">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
      <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"
/>
      <xs:element minOccurs="0" maxOccurs="1" name="cellsArray" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="TypeExporter">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="CellError" type="tns:CellError" />
    <xs:element minOccurs="0" maxOccurs="1" name="CellCompoundValue"
type="tns:CellCompoundValue" />
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="CellError">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Div0" />
    <xs:enumeration value="NotApplicable" />
    <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:complexType name="CellCompoundValue">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Value" />
    <xs:element minOccurs="0" maxOccurs="1" name="Formatted" type="xs:string" />
  </xs:sequence>
</xs:complexType>
<xs:element name="SetRangeResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetRangeResult"
type="tns:CommandResult" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetRangeA1">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
      <xs:element minOccurs="0" maxOccurs="1" name="setRangeRequests"
type="tns:ArrayOfRangeValuesA1" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetRangeA1Response">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="SetRangeA1Result"
type="tns:CommandResult" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SetParameters">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
      <xs:element minOccurs="0" maxOccurs="1" name="workbookParameters"
type="tns:ArrayOfWorkbookParameter" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="ArrayOfWorkbookParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="WorkbookParameter"
nillable="true" type="tns:WorkbookParameter" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="WorkbookParameter">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Comment" type="xs:string" />
    <xs:element minOccurs="1" maxOccurs="1" name="IsPivotPageField" type="xs:boolean"
/>
    <xs:element minOccurs="1" maxOccurs="1" name="IsSlicer" type="xs:boolean" />
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string" />
    <xs:element minOccurs="1" maxOccurs="1" name="RequiresConnection" type="xs:boolean"
/>
    <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfString" />
  </xs:sequence>
</xs:complexType>

```

```

    <xs:element name="SetParametersResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="SetParametersResult"
type="tns:CommandResult" />
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="ResizeRowsColumns">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
          <xs:element minOccurs="0" maxOccurs="1" name="resizeRowColumnRange"
type="tns:ResizeRowColumnRange" />
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:complexType name="ResizeRowColumnRange">
      <xs:complexContent mixed="false">
        <xs:extension base="tns:SheetRange">
          <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1" name="ColumnWidth" type="xs:int" />
            <xs:element minOccurs="1" maxOccurs="1" name="RowHeight" type="xs:int" />
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
    <xs:element name="ResizeRowsColumnsResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="ResizeRowsColumnsResult"
type="tns:CommandResult" />
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetRangeForClipboard">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
          <xs:element minOccurs="0" maxOccurs="1" name="source" type="tns:SheetRange" />
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetRangeForClipboardResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="GetRangeForClipboardResult"
type="tns:CommandResult" />
          <xs:element minOccurs="0" maxOccurs="1" name="clipboardString" type="xs:string"
/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="Refresh">
      <xs:complexType>
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="dataConnectionName"
type="xs:string" />
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="RefreshResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="RefreshResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RefreshAll">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="1" maxOccurs="1" name="periodic" type="xs:boolean" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RefreshAllResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="RefreshAllResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RecalcAll">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <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="RecalcAllResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="RecalcAllResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="CancelRequest">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

        </xs:complexType>
    </xs:element>
    <xs:element name="CancelRequestResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="CancelRequestResult"
type="tns:CommandResult" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="Recalc">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <xs:element minOccurs="0" maxOccurs="1" name="sheetRange" type="tns:SheetRange"
/>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="RecalcResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="RecalcResult"
type="tns:CommandResult" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="RecalcA1">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <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="RecalcA1Response">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="RecalcA1Result"
type="tns:CommandResult" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetSessionInformation">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetSessionInformationResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="GetSessionInformationResult"
type="tns:CommandResult" />
                <xs:element minOccurs="0" maxOccurs="1" name="serverVersion" type="xs:string" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>

```

```

        <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="FindRange">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="searchTerm" type="xs:string" />
            <xs:element minOccurs="1" maxOccurs="1" name="searchUp" type="xs:boolean" />
            <xs:element minOccurs="0" maxOccurs="1" name="searchAfterCell"
type="tns:SheetCell" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SheetCell">
    <xs:sequence>
        <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:sequence>
</xs:complexType>
<xs:element name="FindRangeResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="FindRangeResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="foundCell" type="tns:SheetCell" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplyTop10Filter">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions" />
            <xs:element minOccurs="1" maxOccurs="1" name="top" type="xs:boolean" />
            <xs:element minOccurs="1" maxOccurs="1" name="percent" type="xs:boolean" />
            <xs:element minOccurs="1" maxOccurs="1" name="value" type="xs:int" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="AutoFilterOptions">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="AutoFilterType" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="Criteria"
type="tns:ArrayOfAutoFilterCriteria" />
        <xs:element minOccurs="1" maxOccurs="1" name="CriteriaType"
type="tns:AutoFilterCriteriaType" />
        <xs:element minOccurs="1" maxOccurs="1" name="Id" type="xs:unsignedInt" />
        <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="Column" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="NamedObjectView" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>

```

```

<xs:complexType name="ArrayOfAutoFilterCriteria">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="AutoFilterCriteria"
nillable="true" type="tns:AutoFilterCriteria" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="AutoFilterCriteria">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Type"
type="tns:AutoFilterOperationType" />
    <xs:element minOccurs="1" maxOccurs="1" name="Relation"
type="tns:AutoFilterRelationOperator" />
    <xs:element minOccurs="0" maxOccurs="1" name="Value" type="xs:string" />
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="AutoFilterOperationType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="EQ" />
    <xs:enumeration value="NEQ" />
    <xs:enumeration value="GT" />
    <xs:enumeration value="GTEQ" />
    <xs:enumeration value="LT" />
    <xs:enumeration value="LTEQ" />
    <xs:enumeration value="LastCount" />
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="AutoFilterRelationOperator">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil" />
    <xs:enumeration value="And" />
    <xs:enumeration value="Or" />
    <xs:enumeration value="LastCount" />
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="AutoFilterCriteriaType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil" />
    <xs:enumeration value="AboveAverage" />
    <xs:enumeration value="BelowAverage" />
    <xs:enumeration value="Tomorrow" />
    <xs:enumeration value="Today" />
    <xs:enumeration value="Yesterday" />
    <xs:enumeration value="NextWeek" />
    <xs:enumeration value="ThisWeek" />
    <xs:enumeration value="LastWeek" />
    <xs:enumeration value="NextMonth" />
    <xs:enumeration value="ThisMonth" />
    <xs:enumeration value="LastMonth" />
    <xs:enumeration value="NextQuarter" />
    <xs:enumeration value="ThisQuarter" />
    <xs:enumeration value="LastQuarter" />
    <xs:enumeration value="NextYear" />
    <xs:enumeration value="ThisYear" />
    <xs:enumeration value="LastYear" />
    <xs:enumeration value="YearToDate" />
    <xs:enumeration value="Q1" />
    <xs:enumeration value="Q2" />
    <xs:enumeration value="Q3" />
    <xs:enumeration value="Q4" />
  </xs:restriction>
</xs:simpleType>

```

```

    <xs:enumeration value="M1" />
    <xs:enumeration value="M2" />
    <xs:enumeration value="M3" />
    <xs:enumeration value="M4" />
    <xs:enumeration value="M5" />
    <xs:enumeration value="M6" />
    <xs:enumeration value="M7" />
    <xs:enumeration value="M8" />
    <xs:enumeration value="M9" />
    <xs:enumeration value="M10" />
    <xs:enumeration value="M11" />
    <xs:enumeration value="M12" />
    <xs:enumeration value="LastCount" />
  </xs:restriction>
</xs:simpleType>
<xs:element name="ApplyTop10FilterResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ApplyTop10FilterResult"
type="tns:CommandResult" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="ApplyItemFilter">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions" />
      <xs:element minOccurs="0" maxOccurs="1" name="values" type="tns:ArrayOfString" />
      <xs:element minOccurs="0" maxOccurs="1" name="autoFilterDateNodes"
type="tns:ArrayOfAutoFilterDateNodeInfo" />
      <xs:element minOccurs="1" maxOccurs="1" name="blanks" type="xs:boolean" />
      <xs:element minOccurs="1" maxOccurs="1" name="hideBlanks" type="xs:boolean" />
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:complexType name="ArrayOfAutoFilterDateNodeInfo">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="AutoFilterDateNodeInfo"
nillable="true" type="tns:AutoFilterDateNodeInfo" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="AutoFilterDateNodeType">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="NodeType"
type="tns:AutoFilterDateNodeType" />
    <xs:element minOccurs="1" maxOccurs="1" name="Year" type="xs:short" />
    <xs:element minOccurs="1" maxOccurs="1" name="Month" type="xs:short" />
    <xs:element minOccurs="1" maxOccurs="1" name="Day" type="xs:short" />
    <xs:element minOccurs="1" maxOccurs="1" name="Hour" type="xs:short" />
    <xs:element minOccurs="1" maxOccurs="1" name="Minute" type="xs:short" />
    <xs:element minOccurs="1" maxOccurs="1" name="Second" type="xs:short" />
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="AutoFilterDateNodeType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil" />
  </xs:restriction>

```

```

        <xs:enumeration value="Year" />
        <xs:enumeration value="Month" />
        <xs:enumeration value="Day" />
        <xs:enumeration value="Hour" />
        <xs:enumeration value="Minute" />
        <xs:enumeration value="Second" />
        <xs:enumeration value="Max" />
    </xs:restriction>
</xs:simpleType>
<xs:element name="ApplyItemFilterResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ApplyItemFilterResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SortFilterColumn">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions" />
            <xs:element minOccurs="1" maxOccurs="1" name="ascending" type="xs:boolean" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SortFilterColumnResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="SortFilterColumnResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetAutoFilterItemList">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="autoFilterOptions"
type="tns:AutoFilterOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="AutoFilterItemList">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="ShowTime" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="ItemListMaxExceeded"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsBlanksSelected" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="HasBlanks" type="xs:boolean" />
        <xs:element minOccurs="0" maxOccurs="1" name="AutoFilterDateNodes"
type="tns:ArrayOfAutoFilterDateNodeInfo" />
        <xs:element minOccurs="0" maxOccurs="1" name="AutoFilterItems"
type="tns:ArrayOfAutoFilterItem" />
        <xs:element minOccurs="0" maxOccurs="1" name="SecondValues"
type="tns:ArrayOfAnyType" />
    </xs:sequence>
</xs:complexType>

```



```

        <xs:element minOccurs="0" maxOccurs="1" name="SecondKeys" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="MinuteValues"
type="tns:ArrayOfAnyType" />
        <xs:element minOccurs="0" maxOccurs="1" name="MinuteKeys" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="HourValues" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="HourKeys" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="DayValues" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="DayKeys" type="tns:ArrayOfAnyType" />
        <xs:element minOccurs="0" maxOccurs="1" name="MonthValues"
type="tns:ArrayOfAnyType" />
        <xs:element minOccurs="0" maxOccurs="1" name="MonthKeys" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="YearValues" type="tns:ArrayOfAnyType"
/>
        <xs:element minOccurs="0" maxOccurs="1" name="YearKeys" type="tns:ArrayOfAnyType"
/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfAutoFilterItem">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="AutoFilterItem"
nillable="true" type="tns:AutoFilterItem" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="AutoFilterItem">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Selected" type="xs:boolean" />
        <xs:element minOccurs="0" maxOccurs="1" name="DisplayString" type="xs:string" />
    </xs:sequence>
</xs:complexType>
<xs:element name="GetAutoFilterItemListResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetAutoFilterItemListResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="autoFilterItemList"
type="tns:AutoFilterItemList" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetPivotMenu">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="PivotOperationOptions">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SheetName" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="SourceIndex" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="NamedObject" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>

```

```

    <xs:element minOccurs="0" maxOccurs="1" name="FieldId" type="xs:string" />
    <xs:element minOccurs="0" maxOccurs="1" name="DataFieldId" type="xs:string" />
    <xs:element minOccurs="0" maxOccurs="1" name="MemberPropertyId" type="xs:string" />
    <xs:element minOccurs="0" maxOccurs="1" name="FilterValue1" type="xs:string" />
    <xs:element minOccurs="0" maxOccurs="1" name="FilterValue2" type="xs:string" />
    <xs:element minOccurs="1" maxOccurs="1" name="FilterType"
type="tns:PivotFilterType" />
    <xs:element minOccurs="1" maxOccurs="1" name="ParentId" type="xs:int" />
    <xs:element minOccurs="1" maxOccurs="1" name="Column" type="xs:int" />
    <xs:element minOccurs="1" maxOccurs="1" name="Row" type="xs:int" />
    <xs:element minOccurs="0" maxOccurs="1" name="Items" type="tns:ArrayOfInt" />
    <xs:element minOccurs="1" maxOccurs="1" name="SortByValue" type="xs:boolean" />
    <xs:element minOccurs="1" maxOccurs="1" name="DataFieldIndex" type="xs:int" />
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="PivotFilterType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Invalid" />
    <xs:enumeration value="FirstTop10" />
    <xs:enumeration value="Count" />
    <xs:enumeration value="Percent" />
    <xs:enumeration value="Sum" />
    <xs:enumeration value="LastTop10" />
    <xs:enumeration value="CaptionFirst" />
    <xs:enumeration value="CaptionEquals" />
    <xs:enumeration value="CaptionDoesNotEqual" />
    <xs:enumeration value="CaptionBeginsWith" />
    <xs:enumeration value="CaptionDoesNotBeginWith" />
    <xs:enumeration value="CaptionEndsWith" />
    <xs:enumeration value="CaptionDoesNotEndWith" />
    <xs:enumeration value="CaptionContains" />
    <xs:enumeration value="CaptionDoesNotContain" />
    <xs:enumeration value="CaptionIsGreaterThan" />
    <xs:enumeration value="CaptionIsGreaterThanOrEqualTo" />
    <xs:enumeration value="CaptionIsLessThan" />
    <xs:enumeration value="CaptionIsLessThanOrEqualTo" />
    <xs:enumeration value="CaptionIsBetween" />
    <xs:enumeration value="CaptionIsNotBetween" />
    <xs:enumeration value="ValueFirst" />
    <xs:enumeration value="ValueEqual" />
    <xs:enumeration value="ValueNotEqual" />
    <xs:enumeration value="ValueGreaterThan" />
    <xs:enumeration value="ValueGreaterThanOrEqual" />
    <xs:enumeration value="ValueLessThan" />
    <xs:enumeration value="ValueLessThanOrEqual" />
    <xs:enumeration value="ValueBetween" />
    <xs:enumeration value="ValueNotBetween" />
    <xs:enumeration value="DateFirst" />
    <xs:enumeration value="DateEquals" />
    <xs:enumeration value="DateOlderThan" />
    <xs:enumeration value="DateNewerThan" />
    <xs:enumeration value="DateBetween" />
    <xs:enumeration value="DateTomorrow" />
    <xs:enumeration value="DateToday" />
    <xs:enumeration value="DateYesterday" />
    <xs:enumeration value="DateNextWeek" />
    <xs:enumeration value="DateThisWeek" />
    <xs:enumeration value="DateLastWeek" />
    <xs:enumeration value="DateNextMonth" />
  </xs:restriction>
</xs:simpleType>

```

```

    <xs:enumeration value="DateThisMonth" />
    <xs:enumeration value="DateLastMonth" />
    <xs:enumeration value="DateNextQuarter" />
    <xs:enumeration value="DateThisQuarter" />
    <xs:enumeration value="DateLastQuarter" />
    <xs:enumeration value="DateNextYear" />
    <xs:enumeration value="DateThisYear" />
    <xs:enumeration value="DateLastYear" />
    <xs:enumeration value="DateYearToDate" />
    <xs:enumeration value="DateAllDatesInPeriodQuarter1" />
    <xs:enumeration value="DateAllDatesInPeriodQuarter2" />
    <xs:enumeration value="DateAllDatesInPeriodQuarter3" />
    <xs:enumeration value="DateAllDatesInPeriodQuarter4" />
    <xs:enumeration value="DateAllDatesInPeriodJanuary" />
    <xs:enumeration value="DateAllDatesInPeriodFebruary" />
    <xs:enumeration value="DateAllDatesInPeriodMarch" />
    <xs:enumeration value="DateAllDatesInPeriodApril" />
    <xs:enumeration value="DateAllDatesInPeriodMay" />
    <xs:enumeration value="DateAllDatesInPeriodJune" />
    <xs:enumeration value="DateAllDatesInPeriodJuly" />
    <xs:enumeration value="DateAllDatesInPeriodAugust" />
    <xs:enumeration value="DateAllDatesInPeriodSeptember" />
    <xs:enumeration value="DateAllDatesInPeriodOctober" />
    <xs:enumeration value="DateAllDatesInPeriodNovember" />
    <xs:enumeration value="DateAllDatesInPeriodDecember" />
    <xs:enumeration value="DateNotEqual" />
    <xs:enumeration value="DateOlderOrEqual" />
    <xs:enumeration value="DateNewerOrEqual" />
    <xs:enumeration value="DateNotBetween" />
    <xs:enumeration value="Last" />
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="ArrayOfInt">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="int" type="xs:int" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="PivotMenu">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="Top10MaxItems" type="xs:int" />
    <xs:element minOccurs="1" maxOccurs="1" name="AdvancedFiltering" type="xs:boolean" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfPivotField">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="IsPageFilter" type="xs:boolean" />
    <xs:element minOccurs="0" maxOccurs="1" name="PivotDataItems" type="tns:ArrayOfPivotField" />
    <xs:element minOccurs="0" maxOccurs="1" name="PivotDataFields" type="tns:ArrayOfPivotField" />
    <xs:element minOccurs="0" maxOccurs="1" name="PivotFields" type="tns:ArrayOfPivotField" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfPivotField">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="PivotField" nillable="true" type="tns:PivotField" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="PivotField">
  <xs:sequence>

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="MemberProperties"
type="tns:ArrayOfPivotField" />
        <xs:element minOccurs="0" maxOccurs="1" name="PivotFilterParameters"
type="tns:ArrayOfPivotFilterParameter" />
        <xs:element minOccurs="1" maxOccurs="1" name="SortByValueIndex" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsNonnumericCaptionFilteringEnabled"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsDateFilteringEnabled"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsCaptionFilteringEnabled"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsFilteringEnabled" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="IsDateField" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsDataField" type="xs:boolean" />
        <xs:element minOccurs="0" maxOccurs="1" name="FilterParameter"
type="tns:Top10FilterParameter" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsSortedByValue" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsSortedDescending" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="IsSortedAscending" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="HasCustomFilter" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="HasManualFilter" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="HasTop10Filter" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsHierarchy" type="xs:boolean" />
        <xs:element minOccurs="0" maxOccurs="1" name="IdString" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="DisplayString" type="xs:string" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfPivotFilterParameter">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="PivotFilterParameter"
nillable="true" type="tns:PivotFilterParameter" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="PivotFilterParameter">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="FilterString2" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="FilterString1" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="MemberPropertyId" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="DataFieldId" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="FilterType"
type="tns:PivotFilterType" />
        <xs:element minOccurs="1" maxOccurs="1" name="FilterValue2" type="xs:double" />
        <xs:element minOccurs="1" maxOccurs="1" name="FilterValue1" type="xs:double" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="Top10FilterParameter">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="DataFieldId" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="FilterType"
type="tns:Top10FilterType" />
        <xs:element minOccurs="1" maxOccurs="1" name="FilterValue" type="xs:double" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsTopFilter" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>
<xs:simpleType name="Top10FilterType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Invalid" />
    </xs:restriction>
</xs:simpleType>

```

```

        <xs:enumeration value="Count" />
        <xs:enumeration value="Percent" />
        <xs:enumeration value="Sum" />
    </xs:restriction>
</xs:simpleType>
<xs:element name="GetPivotMenuResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetPivotMenuResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotMenu" type="tns:PivotMenu" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetSlicerItemList">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="slicerOptions"
type="tns:SlicerOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SlicerOptions">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerCacheId" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerViewId" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerExternalSourceIndex"
type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerItemsOffset" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerItemsCount" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerClearItems" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="SlicerVersion" type="xs:int" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerView">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="ItemsToScrollBar" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="ItemsToHeader" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="CellDistance" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="CellMargin" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="ItemCount" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="Offset" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="Margin" type="xs:unsignedInt" />
        <xs:element minOccurs="1" maxOccurs="1" name="ItemWidth" type="xs:unsignedInt" />
        <xs:element minOccurs="1" maxOccurs="1" name="ItemHeight" type="xs:unsignedInt" />
        <xs:element minOccurs="1" maxOccurs="1" name="CaptionHeight" type="xs:unsignedInt"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="ColCount" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="RowCount" type="xs:int" />
        <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string" />
        <xs:element minOccurs="0" maxOccurs="1" name="Caption" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="ScrollbarVisible" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="CaptionVisible" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>

```

```

        <xs:element minOccurs="1" maxOccurs="1" name="OlapSourced" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerFormatElementList">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SlicerFormatElements"
type="tns:ArrayOfSlicerFormatElement" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfSlicerFormatElement">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="SlicerFormatElement"
nillable="true" type="tns:SlicerFormatElement" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerFormatElement">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="GradientStop1" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="GradientStop0" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="GradientType" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="HasGradient" type="xs:boolean" />
        <xs:element minOccurs="0" maxOccurs="1" name="SlicerFontType"
type="tns:SlicerFontType" />
        <xs:element minOccurs="0" maxOccurs="1" name="BorderFormat" type="tns:BorderFormat"
/>
    </xs:sequence>
    <xs:element minOccurs="1" maxOccurs="1" name="FillColor" type="xs:int" />
    <xs:element minOccurs="1" maxOccurs="1" name="Ident" type="xs:int" />
    <xs:element minOccurs="1" maxOccurs="1" name="HorizontalAlignment" type="xs:int" />
    <xs:element minOccurs="1" maxOccurs="1" name="VerticalAlignment" type="xs:int" />
</xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerFontType">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Strikethrough" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="Underline" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="Italic" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="Bold" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="FontSize" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="FontColor" type="xs:int" />
        <xs:element minOccurs="0" maxOccurs="1" name="FontName" type="xs:string" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="BorderFormat">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Thickness" type="tns:ArrayOfInt" />
        <xs:element minOccurs="0" maxOccurs="1" name="Color" type="tns:ArrayOfInt" />
        <xs:element minOccurs="0" maxOccurs="1" name="LineStyle" type="tns:ArrayOfInt" />
        <xs:element minOccurs="1" maxOccurs="1" name="Position" type="xs:int" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerItemList">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SlicerItems"
type="tns:ArrayOfSlicerItem" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfSlicerItem">
    <xs:sequence>

```

```

        <xs:element minOccurs="0" maxOccurs="unbounded" name="SlicerItem" nillable="true"
type="tns:SlicerItem" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerItem">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="DisplayName" type="xs:string" />
        <xs:element minOccurs="1" maxOccurs="1" name="NoData" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="Hidden" type="xs:boolean" />
    </xs:sequence>
</xs:complexType>
<xs:element name="GetSlicerItemListResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetSlicerItemListResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="itemList" type="tns:SlicerItemList"
/>
            <xs:element minOccurs="0" maxOccurs="1" name="formatList"
type="tns:SlicerFormatElementList" />
            <xs:element minOccurs="0" maxOccurs="1" name="slicerView" type="tns:SlicerView"
/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ConnectAndGetSlicerItemList">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="slicerOptions"
type="tns:SlicerOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ConnectAndGetSlicerItemListResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ConnectAndGetSlicerItemListResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="itemList" type="tns:SlicerItemList"
/>
            <xs:element minOccurs="0" maxOccurs="1" name="formatList"
type="tns:SlicerFormatElementList" />
            <xs:element minOccurs="0" maxOccurs="1" name="slicerView" type="tns:SlicerView"
/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplySlicerSelection">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="slicerOptions"
type="tns:SlicerOptions" />
            <xs:element minOccurs="0" maxOccurs="1" name="selectedRanges"
type="tns:ArrayOfSlicerItemRange" />
            <xs:element minOccurs="0" maxOccurs="1" name="unselectedRanges"
type="tns:ArrayOfSlicerItemRange" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="ArrayOfSlicerItemRange">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="SlicerItemRange"
nillable="true" type="tns:SlicerItemRange" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="SlicerItemRange">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="Start" type="xs:int" />
        <xs:element minOccurs="1" maxOccurs="1" name="End" type="xs:int" />
    </xs:sequence>
</xs:complexType>
<xs:element name="ApplySlicerSelectionResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ApplySlicerSelectionResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetPivotFilterItemList">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="PivotFilterItemList">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="ItemListMaxExceeded"
type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="IsBlanksSelected" type="xs:boolean"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="HasBlanks" type="xs:boolean" />
        <xs:element minOccurs="0" maxOccurs="1" name="PivotFilterItems"
type="tns:ArrayOfPivotFilterItem" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfPivotFilterItem">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="PivotFilterItem"
nillable="true" type="tns:PivotFilterItem" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="PivotFilterItem">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:PivotFilterItemList">
            <xs:sequence>
                <xs:element minOccurs="1" maxOccurs="1" name="CalculatedMember"
type="xs:boolean" />
                <xs:element minOccurs="1" maxOccurs="1" name="LeafItem" type="xs:boolean" />
                <xs:element minOccurs="1" maxOccurs="1" name="Selected" type="xs:boolean" />
                <xs:element minOccurs="1" maxOccurs="1" name="Id" type="xs:int" />
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>

```



```

        <xs:element minOccurs="0" maxOccurs="1" name="DisplayString" type="xs:string"
/>
    </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:element name="GetPivotFilterItemListResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetPivotFilterItemListResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="itemList"
type="tns:PivotFilterItemList" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ConnectAndGetPivotFilterItemList">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ConnectAndGetPivotFilterItemListResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1"
name="ConnectAndGetPivotFilterItemListResult" type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="itemList"
type="tns:PivotFilterItemList" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplyPivotFilter">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplyPivotFilterResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ApplyPivotFilterResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplyPivotTop10Filter">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        <xs:element minOccurs="1" maxOccurs="1" name="top" type="xs:boolean" />
        <xs:element minOccurs="1" maxOccurs="1" name="value" type="xs:double" />
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="ApplyPivotTop10FilterResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ApplyPivotTop10FilterResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplyPivotSort">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
            <xs:element minOccurs="1" maxOccurs="1" name="ascending" type="xs:boolean" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ApplyPivotSortResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ApplyPivotSortResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="TogglePivotDrill">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="TogglePivotDrillResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="TogglePivotDrillResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RemovePivotFilter">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="pivotOperationOptions"
type="tns:PivotOperationOptions" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

        </xs:complexType>
    </xs:element>
    <xs:element name="RemovePivotFilterResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="RemovePivotFilterResult"
type="tns:CommandResult" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetWorkbook">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <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="tns:CommandResult" />
                <xs:element minOccurs="0" maxOccurs="1" name="bits" type="xs:base64Binary" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetPublishedObjects">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <xs:element minOccurs="1" maxOccurs="1" name="options"
type="tns:GetPublishedObjectsOptions" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:simpleType name="GetPublishedObjectsOptions">
        <xs:list>
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="ReturnImplicitPublish" />
                </xs:restriction>
            </xs:simpleType>
        </xs:list>
    </xs:simpleType>
    <xs:complexType name="PublishedObjectName">
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string" />
            <xs:element minOccurs="1" maxOccurs="1" name="Type" type="tns:NamedObjectType" />
        </xs:sequence>
    </xs:complexType>
    <xs:simpleType name="NamedObjectType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="InvalidNamedObjectType" />
            <xs:enumeration value="Chart" />
            <xs:enumeration value="PivotTable" />
        </xs:restriction>
    </xs:simpleType>

```

```

        <xs:enumeration value="Table" />
        <xs:enumeration value="NamedRange" />
        <xs:enumeration value="MaxNamedObjectType" />
    </xs:restriction>
</xs:simpleType>
<xs:complexType name="ArrayOfPublishedObjectName">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="PublishedObjectName"
nillable="true" type="tns:PublishedObjectName" />
    </xs:sequence>
</xs:complexType>
<xs:element name="GetPublishedObjectsResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetPublishedObjectsResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="publishedObjects"
type="tns:ArrayOfPublishedObjectName" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetObjectInformation">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="objectName" type="xs:string" />
            <xs:element minOccurs="1" maxOccurs="1" name="objectType"
type="tns:NamedObjectType" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="ObjectInformation">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="SheetRange" type="tns:SheetRange" />
    </xs:sequence>
</xs:complexType>
<xs:element name="GetObjectInformationResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetObjectInformationResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="objectInformation"
type="tns:ObjectInformation" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetSheetNames">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:complexType name="SheetName">
    <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:sequence>
</xs:complexType>

```

```

        <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="ArrayOfSheetName">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="SheetName" nillable="true"
type="tns:SheetName" />
    </xs:sequence>
</xs:complexType>
<xs:element name="GetSheetNamesResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetSheetNamesResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="sheetNames"
type="tns:ArrayOfSheetName" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetSparklines">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetSparklinesResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetSparklinesResult"
type="tns:CommandResult" />
            <xs:element minOccurs="0" maxOccurs="1" name="imageFormatType" type="xs:string"
/>
            <xs:element minOccurs="0" maxOccurs="1" name="binarySparklineImage"
type="xs:base64Binary" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetImage">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <xs:element minOccurs="0" maxOccurs="1" name="imageId" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

        </xs:complexType>
    </xs:element>
    <xs:element name="GetImageResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="GetImageResult"
type="tns:CommandResult" />
                <xs:element minOccurs="0" maxOccurs="1" name="imageFormatType" type="xs:string"
/>
                <xs:element minOccurs="0" maxOccurs="1" name="binaryChartImage"
type="xs:base64Binary" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="GetChart">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <xs:element minOccurs="0" maxOccurs="1" name="getChartInformation"
type="tns:GetChartInformation" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="GetChartInformation">
        <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1" name="Height" type="xs:int" />
            <xs:element minOccurs="1" maxOccurs="1" name="Width" type="xs:int" />
            <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
    <xs:element name="GetChartResponse">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="GetChartResult"
type="tns:CommandResult" />
                <xs:element minOccurs="0" maxOccurs="1" name="imageFormatType" type="xs:string"
/>
                <xs:element minOccurs="0" maxOccurs="1" name="binaryChartImage"
type="xs:base64Binary" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="ExpandCollapseOutline">
        <xs:complexType>
            <xs:sequence>
                <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
                <xs:element minOccurs="0" maxOccurs="1" name="sheetOrNamedRange" type="xs:string"
/>
                <xs:element minOccurs="1" maxOccurs="1" name="namedRange" type="xs:boolean" />
                <xs:element minOccurs="1" maxOccurs="1" name="outlineLevel"
type="xs:unsignedByte" />
                <xs:element minOccurs="1" maxOccurs="1" name="rowColumn" type="xs:int" />
                <xs:element minOccurs="1" maxOccurs="1" name="row" type="xs:boolean" />
            </xs:sequence>
        </xs:complexType>
    </xs:element>
    <xs:element name="ExpandCollapseOutlineResponse">
        <xs:complexType>

```

```

        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="ExpandCollapseOutlineResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="SetCalculationOptions">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="parameter"
type="tns:CommandParameter" />
            <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="SetCalculationOptionsResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetHealthScore">
    <xs:complexType />
</xs:element>
<xs:element name="GetHealthScoreResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetHealthScoreResult"
type="tns:CommandResult" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:simpleType name="RangeReference">
    <xs:restriction base="xs:string" />
</xs:simpleType>
<xs:simpleType name="SessionIdentifier">
    <xs:restriction base="xs:string" />
</xs:simpleType>
</xs:schema>
<xs:schema xmlns:tns="http://microsoft.com/wsdl/types/" elementFormDefault="qualified"
targetNamespace="http://microsoft.com/wsdl/types/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:simpleType name="guid">
        <xs:restriction base="xs:string">
            <xs:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-
9a-fA-F]{12}" />
        </xs:restriction>
    </xs:simpleType>
</xs:schema>

```

```

    <xs:schema
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
elementFormDefault="qualified"
targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
    <xs:complexType name="ExcelServerMessage">
        <xs:sequence>
            <xs:element minOccurs="0" name="Appearance" type="tns:ExcelServerMessageAppearance"
/>
            <xs:element minOccurs="0" name="Caption" nillable="true" type="xs:string" />
            <xs:element minOccurs="0" name="Description" nillable="true" type="xs:string" />
            <xs:element minOccurs="0" name="ExtendedDescription" nillable="true"
type="xs:string" />
            <xs:element minOccurs="0" name="HasOpenItemPermission" type="xs:boolean" />
            <xs:element minOccurs="0" name="HealthInformation" nillable="true"
type="tns:ServerHealthInformation" />
            <xs:element minOccurs="0" name="HelpDisplayText" nillable="true" type="xs:string"
/>
            <xs:element minOccurs="0" name="HelpTopicId" nillable="true" type="xs:string" />
            <xs:element minOccurs="0" name="Id" type="tns:ExcelServerMessageId" />
            <xs:element minOccurs="0" name="Severity" type="tns:ExcelServerMessageSeverity" />
            <xs:element minOccurs="0" name="Type" type="tns:ExcelServerMessageType" />
            <xs:element minOccurs="0" name="WrongEcsServerId" nillable="true" type="xs:string"
/>
        </xs:sequence>
    </xs:complexType>
    <xs:element name="ExcelServerMessage" nillable="true" type="tns:ExcelServerMessage" />
    <xs:simpleType name="ExcelServerMessageAppearance">
        <xs:list>
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="None" />
                    <xs:enumeration value="OK" />
                    <xs:enumeration value="Cancel" />
                    <xs:enumeration value="Yes" />
                    <xs:enumeration value="No" />
                    <xs:enumeration value="Notification" />
                </xs:restriction>
            </xs:simpleType>
        </xs:list>
    </xs:simpleType>
    <xs:element name="ExcelServerMessageAppearance" nillable="true"
type="tns:ExcelServerMessageAppearance" />
    <xs:complexType name="ServerHealthInformation">
        <xs:sequence>
            <xs:element minOccurs="0" name="HealthScore" type="xs:float" />
            <xs:element minOccurs="0" name="StateFlags" type="tns:ServerStateFlags" />
        </xs:sequence>
    </xs:complexType>
    <xs:element name="ServerHealthInformation" nillable="true"
type="tns:ServerHealthInformation" />
    <xs:simpleType name="ServerStateFlags">
        <xs:list>
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="None" />
                    <xs:enumeration value="Probation" />
                    <xs:enumeration value="ShuttingDown" />
                </xs:restriction>
            </xs:simpleType>
        </xs:list>
    </xs:simpleType>

```



```

    </xs:simpleType>
  </xs:list>
</xs:simpleType>
<xs:element name="ServerStateFlags" nillable="true" type="tns:ServerStateFlags" />
<xs:simpleType name="ExcelServerMessageId">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Blank" />
    <xs:enumeration value="InternalError" />
    <xs:enumeration value="NotMemberOfRole" />
    <xs:enumeration value="EncryptionTooLow" />
    <xs:enumeration value="ConfirmDataRefresh" />
    <xs:enumeration value="ExternalDataRefreshFailed" />
    <xs:enumeration value="ExternalDataRefreshFailedReal" />
    <xs:enumeration value="ExternalDataRefreshFailedReadOrViewOnly" />
    <xs:enumeration value="NoAccessToOdcReadOrViewOnly" />
    <xs:enumeration value="ErrorConnectingToDataSourceReadOrViewOnly" />
    <xs:enumeration value="InvalidUserNameOrPasswordReadOrViewOnly" />
    <xs:enumeration value="InvalidUserNameOrPassword" />
    <xs:enumeration value="ExternalDataNotAllowedOnTL" />
    <xs:enumeration value="InvalidUriOrLocalConnectionPath" />
    <xs:enumeration value="DclNotTrusted" />
    <xs:enumeration value="OdcFileDoesNotExist" />
    <xs:enumeration value="ErrorAccessingSsoFromEcs" />
    <xs:enumeration value="SsoError" />
    <xs:enumeration value="ErrorConnectingToDataSource" />
    <xs:enumeration value="UnattendedAccountNotConfigured" />
    <xs:enumeration value="IncorrectAuthUsed" />
    <xs:enumeration value="ExternalDataRefreshFailed_Details" />
    <xs:enumeration value="PivotNoOverlapAllowed" />
    <xs:enumeration value="PivotOverlapList" />
    <xs:enumeration value="PivotCubeNotUnique" />
    <xs:enumeration value="NoDataItemsOlap" />
    <xs:enumeration value="OlapSchemaFail" />
    <xs:enumeration value="InvalidPivot" />
    <xs:enumeration value="OlapNoMoreDetail" />
    <xs:enumeration value="DrillActionInvalid" />
    <xs:enumeration value="DriverNotOlap" />
    <xs:enumeration value="CubeMissing" />
    <xs:enumeration value="SkipLine" />
    <xs:enumeration value="CDimMismatch" />
    <xs:enumeration value="DataSetAxisTooBig" />
    <xs:enumeration value="CubeIntegrityError" />
    <xs:enumeration value="PivotNotExpandedtoProtectCellContents" />
    <xs:enumeration value="PivotTruncatedSheetEdge" />
    <xs:enumeration value="DdlGrpNotSup" />
    <xs:enumeration value="PivotFormulasCollided" />
    <xs:enumeration value="NoRetItems" />
    <xs:enumeration value="OlapConnectVisualModeProvider" />
    <xs:enumeration value="PivotNoSourceData" />
    <xs:enumeration value="PivotFilteringError" />
    <xs:enumeration value="PivotTableIncorrectDateFormat" />
    <xs:enumeration value="PivotTableEndingLargerThanStarting" />
    <xs:enumeration value="PivotTableIncorrectNumberFormat" />
    <xs:enumeration value="PivotTableOutOfRange" />
    <xs:enumeration value="MergedCellOverlap" />
    <xs:enumeration value="PivotSourceNotAvailable" />
    <xs:enumeration value="UnexpectedPivotError" />
    <xs:enumeration value="EditModeCannotAcquireLockUnknownReason" />
    <xs:enumeration value="EditModeCannotAcquireLock" />
  </xs:restriction>
</xs:simpleType>

```

```

<xs:enumeration value="EditModeCannotAcquireLockUnknownUser" />
<xs:enumeration value="EditModeWorkbookCheckedOutRequired" />
<xs:enumeration value="EditModeWorkbookCheckedOutToLocalDrafts" />
<xs:enumeration value="SiteTooBusy" />
<xs:enumeration value="SiteCollectionMemoryQuotaExceeded" />
<xs:enumeration value="SessionMemoryQuotaExceeded" />
<xs:enumeration value="SiteCollectionChartQuotaExceeded" />
<xs:enumeration value="RequestLimitsExceeded" />
<xs:enumeration value="SavingUnsupportedInViewMode" />
<xs:enumeration value="SavingWorkbookNoWorkbookName" />
<xs:enumeration value="FileSaveGeneric" />
<xs:enumeration value="SavingWorkbookInvalidPermissions" />
<xs:enumeration value="SavingWorkbookLockedOrCheckedOut" />
<xs:enumeration value="SavingWorkbookNotCheckedOut" />
<xs:enumeration value="SavingWorkbookAccessDenied" />
<xs:enumeration value="SavingWorkbookInvalidFileType" />
<xs:enumeration value="SavingWorkbookFileNameExists" />
<xs:enumeration value="HostedSavingWorkbookFileNameExists" />
<xs:enumeration value="HostedSavingWorkbookInvalidFileName" />
<xs:enumeration value="SavingWorkbookNotTrustedLocation" />
<xs:enumeration value="SavingWorkbookInvalidLocation" />
<xs:enumeration value="SavingWorkbookInvalidFileName" />
<xs:enumeration value="SavingWorkbookTrustedLocationSettingWarning" />
<xs:enumeration value="SavingWorkbookAlmostTooLarge" />
<xs:enumeration value="SavingWorkbookTooLarge" />
<xs:enumeration value="NewWorkbookInvalidLocation" />
<xs:enumeration value="FileOpenSecuritySettings" />
<xs:enumeration value="FileOpenNotFound" />
<xs:enumeration value="FileOpenAccessDenied" />
<xs:enumeration value="FileCorrupt" />
<xs:enumeration value="OpenWorkbookTooLarge" />
<xs:enumeration value="OpenWorkbookLocationNotTrusted" />
<xs:enumeration value="OpenWorkbookAccessDenied" />
<xs:enumeration value="WorkbookNotSupported" />
<xs:enumeration value="WorkbookNotSupportedViewRight" />
<xs:enumeration value="UnsupportedFeatureViewWarning" />
<xs:enumeration value="UnsupportedFeatureSaveCopyWarning" />
<xs:enumeration value="ExternalWorkbookLinksDisabled" />
<xs:enumeration value="WorkbookLockedRead" />
<xs:enumeration value="EditModeCannotEditNonSharePointWorkbook" />
<xs:enumeration value="EditModeAccessDenied" />
<xs:enumeration value="GenericFileOpenError" />
<xs:enumeration value="IRMedWorkbook" />
<xs:enumeration value="ParameterInvalid" />
<xs:enumeration value="ParameterLimitExceeded" />
<xs:enumeration value="WorkbookInternalLimit" />
<xs:enumeration value="OldFormatConversionFailed" />
<xs:enumeration value="EditModeWorkbookExternalData" />
<xs:enumeration value="FormulaEditingNotEnabled" />
<xs:enumeration value="DimensionMismatch" />
<xs:enumeration value="SetRangeFailure" />
<xs:enumeration value="ObjectTypeNotSupported" />
<xs:enumeration value="ParameterDoesNotExist" />
<xs:enumeration value="FormulaParseFailed" />
<xs:enumeration value="SetParameterFailure" />
<xs:enumeration value="CannotEditPivotTable" />
<xs:enumeration value="InsDelCellsNonblankCells" />
<xs:enumeration value="InsDelCellsArrayFmla" />
<xs:enumeration value="InsDelCellsPivotTable" />

```

```

<xs:enumeration value="InsDelCellsTable" />
<xs:enumeration value="InsDelCellsMergedCells" />
<xs:enumeration value="InsDelCellsDatatable" />
<xs:enumeration value="InsDelCellsRowsForWholeColumn" />
<xs:enumeration value="InsDelCellsColumnsForWholeRow" />
<xs:enumeration value="InvalidSheetName" />
<xs:enumeration value="RangeParseError" />
<xs:enumeration value="SpecifiedRangeNotFound" />
<xs:enumeration value="RangeDefinitionError" />
<xs:enumeration value="DiscontiguousRangeNotSupported" />
<xs:enumeration value="RangeRequestAreaExceeded" />
<xs:enumeration value="SheetRangeMismatch" />
<xs:enumeration value="ImageGenFailed" />
<xs:enumeration value="ApiInvalidArgument" />
<xs:enumeration value="ApiInvalidCoordinate" />
<xs:enumeration value="ConfirmationUnsupported" />
<xs:enumeration value="ApiInvalidDimensionReturned" />
<xs:enumeration value="ApiMissingSiteContext" />
<xs:enumeration value="Ewr_IllegalPageSize" />
<xs:enumeration value="Ewr_WorkbookNotSpecified" />
<xs:enumeration value="Ewr_LoadProgress" />
<xs:enumeration value="Ewr_FileCorrupt" />
<xs:enumeration value="Ewr_WorkbookNotSupported" />
<xs:enumeration value="Ewr_GenericFileOpenError" />
<xs:enumeration value="Ewr_InvalidParameterGeneric" />
<xs:enumeration value="Ewr_InvalidParameterMandatoryMissing" />
<xs:enumeration value="Ewr_InvalidParameterUnexpectedFormat" />
<xs:enumeration value="Ewr_InvalidParameterOutOfRange" />
<xs:enumeration value="Ewr_InvalidParameterOperationNotAllowed" />
<xs:enumeration value="Ewr_ParameterInvalid" />
<xs:enumeration value="Ewr_ParameterLimitExceeded" />
<xs:enumeration value="Ewr_ParameterDoesNotExist" />
<xs:enumeration value="Ewr_SetParameterFailure" />
<xs:enumeration value="Ewr_SetParameterFailureOnOpen" />
<xs:enumeration value="Ewr_ParameterReadFromDocPropsError" />
<xs:enumeration value="Ewr_FormulaEditingNotEnabled" />
<xs:enumeration value="Ewr_InvalidVisibleItem" />
<xs:enumeration value="Ewr_EditSaveAsOverCurrentWorkbook" />
<xs:enumeration value="Ewr_RequestTimedOut" />
<xs:enumeration value="Ewr_ServerCommunicationError" />
<xs:enumeration value="Ewr_ServerAuthenticationError" />
<xs:enumeration value="Ewr_Top10InvalidValue" />
<xs:enumeration value="Ewr_Top10InvalidValue_Float" />
<xs:enumeration value="Mewa_PageStateInitFailed" />
<xs:enumeration value="Mewa_CriticalParameterMissing" />
<xs:enumeration value="Mewa_GridViewRenderingFailed" />
<xs:enumeration value="Mewa_FeatureNotActive" />
<xs:enumeration value="OperationNotSupportedInViewOnly" />
<xs:enumeration value="OperationOnInvalidState" />
<xs:enumeration value="InvalidOrTimedOutSession" />
<xs:enumeration value="InvalidOrTimedOutSessionPageRefresh" />
<xs:enumeration value="ScratchPadChangesLost" />
<xs:enumeration value="MaxSessionsPerUserExceeded" />
<xs:enumeration value="OperationCanceled" />
<xs:enumeration value="MaxRequestDurationExceeded" />
<xs:enumeration value="NoOccurrencesFound" />
<xs:enumeration value="EcsInvalidNamedObject" />
<xs:enumeration value="NoPublishedItems" />
<xs:enumeration value="RetryError" />

```

```

<xs:enumeration value="StopOpenOnRefreshFailure" />
<xs:enumeration value="ProductExpired" />
<xs:enumeration value="SortActionInvalid" />
<xs:enumeration value="SortActionNotSupportedWithPivot" />
<xs:enumeration value="CircularReferencesFound" />
<xs:enumeration value="SessionNotFound" />
<xs:enumeration value="NewWorkbookSessionTimeout" />
<xs:enumeration value="EditXLSFile" />
<xs:enumeration value="UnsupportedFeatureEditWarning" />
<xs:enumeration value="EditModeSessionExists" />
<xs:enumeration value="NewerWorkbookExists" />
<xs:enumeration value="ExternalDataOfficeLive" />
<xs:enumeration value="LostAuthentication" />
<xs:enumeration value="ListEntryNotFound_1" />
<xs:enumeration value="ListEntryNotFound_2" />
<xs:enumeration value="ListEntryAlreadyExists_1" />
<xs:enumeration value="ListEntryAlreadyExists_2" />
<xs:enumeration value="InvalidArgumentValue" />
<xs:enumeration value="MissingArgumentName" />
<xs:enumeration value="InvalidArgumentName" />
<xs:enumeration value="ArgumentBadInRemove" />
<xs:enumeration value="ManagementUIListEntryAlreadyExists" />
<xs:enumeration value="ManagementUIListEntryNotFound" />
<xs:enumeration value="ManagementUIInternalError" />
<xs:enumeration value="UnsupportedUICulture" />
<xs:enumeration value="UnsupportedDataCulture" />
<xs:enumeration value="SpecifiedItemNotFound" />
<xs:enumeration value="EcsSnapshotAccessDenied" />
<xs:enumeration value="SaveFailed" />
<xs:enumeration value="WrongEcs" />
<xs:enumeration value="PasteDataLimitHit" />
<xs:enumeration value="UndoStackEmpty" />
<xs:enumeration value="RedoStackEmpty" />
<xs:enumeration value="UndoRedoCollabFail" />
<xs:enumeration value="HyperlinkLocationRequired" />
<xs:enumeration value="CollabLocaleMismatch" />
<xs:enumeration value="LocaleRestored" />
<xs:enumeration value="InvalidEditSession" />
<xs:enumeration value="InvalidEditSessionPageRefresh" />
<xs:enumeration value="InvalidEditSessionId" />
<xs:enumeration value="UnableToLoadEditSession" />
<xs:enumeration value="SavingWorkbookFailed" />
<xs:enumeration value="RefreshLockFailed" />
<xs:enumeration value="InvalidChartName" />
<xs:enumeration value="RetryOutOfSync" />
<xs:enumeration value="OperationFailed" />
<xs:enumeration value="OpenInExcelActiveXError" />
<xs:enumeration value="OpenInExcelClientIntegrationDisabled" />
<xs:enumeration value="ProcessingUserChangesFileDownloadIgnored" />
<xs:enumeration value="PhoneticDataLossWarning" />
<xs:enumeration value="Count" />
</xs:restriction>
</xs:simpleType>
<xs:element name="ExcelServerMessageId" nillable="true" type="tns:ExcelServerMessageId"
/>
<xs:simpleType name="ExcelServerMessageSeverity">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Error" />
    <xs:enumeration value="Warning" />
  </xs:restriction>
</xs:simpleType>

```

```

        <xs:enumeration value="Information" />
        <xs:enumeration value="Progress" />
        <xs:enumeration value="GettingStarted" />
    </xs:restriction>
</xs:simpleType>
<xs:element name="ExcelServerMessageSeverity" nillable="true"
type="tns:ExcelServerMessageSeverity" />
<xs:simpleType name="ExcelServerMessageType">
    <xs:restriction base="xs:string">
        <xs:enumeration value="Alert" />
        <xs:enumeration value="Status" />
        <xs:enumeration value="Confirmation" />
    </xs:restriction>
</xs:simpleType>
<xs:element name="ExcelServerMessageType" nillable="true"
type="tns:ExcelServerMessageType" />
</xs:schema>
<xs:schema xmlns:tns="http://schemas.microsoft.com/2003/10/Serialization/"
attributeFormDefault="qualified" elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/2003/10/Serialization/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:element name="anyType" nillable="true" type="xs:anyType" />
    <xs:element name="anyURI" nillable="true" type="xs:anyURI" />
    <xs:element name="base64Binary" nillable="true" type="xs:base64Binary" />
    <xs:element name="boolean" nillable="true" type="xs:boolean" />
    <xs:element name="byte" nillable="true" type="xs:byte" />
    <xs:element name="dateTime" nillable="true" type="xs:dateTime" />
    <xs:element name="decimal" nillable="true" type="xs:decimal" />
    <xs:element name="double" nillable="true" type="xs:double" />
    <xs:element name="float" nillable="true" type="xs:float" />
    <xs:element name="int" nillable="true" type="xs:int" />
    <xs:element name="long" nillable="true" type="xs:long" />
    <xs:element name="QName" nillable="true" type="xs:QName" />
    <xs:element name="short" nillable="true" type="xs:short" />
    <xs:element name="string" nillable="true" type="xs:string" />
    <xs:element name="unsignedByte" nillable="true" type="xs:unsignedByte" />
    <xs:element name="unsignedInt" nillable="true" type="xs:unsignedInt" />
    <xs:element name="unsignedLong" nillable="true" type="xs:unsignedLong" />
    <xs:element name="unsignedShort" nillable="true" type="xs:unsignedShort" />
    <xs:element name="char" nillable="true" type="tns:char" />
    <xs:simpleType name="char">
        <xs:restriction base="xs:int" />
    </xs:simpleType>
    <xs:element name="duration" nillable="true" type="tns:duration" />
    <xs:simpleType name="duration">
        <xs:restriction base="xs:duration">
            <xs:pattern value="\-?P(\d*D)?(T(\d*H)?(\d*M)?(\d*(\.\d*)?S)?)?" />
            <xs:minInclusive value="-P10675199DT2H48M5.4775808S" />
            <xs:maxInclusive value="P10675199DT2H48M5.4775807S" />
        </xs:restriction>
    </xs:simpleType>
    <xs:element name="guid" nillable="true" type="tns:guid" />
    <xs:simpleType name="guid">
        <xs:restriction base="xs:string">
            <xs:pattern value="[\da-fA-F]{8}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{12}" />
        </xs:restriction>
    </xs:simpleType>
    <xs:attribute name="FactoryType" type="xs:QName" />

```

```

        <xs:attribute name="Id" type="xs:ID" />
        <xs:attribute name="Ref" type="xs:IDREF" />
    </xs:schema>
</wsdl:types>
<wsdl:message name="ExcelServiceSoap_OpenWorkbook_InputMessage">
    <wsdl:part name="parameters" element="tns:OpenWorkbook" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_OpenWorkbook_OutputMessage">
    <wsdl:part name="parameters" element="tns:OpenWorkbookResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_OpenWorkbook_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q1:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_CloseWorkbook_InputMessage">
    <wsdl:part name="parameters" element="tns:CloseWorkbook" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_CloseWorkbook_OutputMessage">
    <wsdl:part name="parameters" element="tns:CloseWorkbookResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_CloseWorkbook_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q2="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q2:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SaveWorkbook_InputMessage">
    <wsdl:part name="parameters" element="tns:SaveWorkbook" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SaveWorkbook_OutputMessage">
    <wsdl:part name="parameters" element="tns:SaveWorkbookResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SaveWorkbook_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q3="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q3:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SaveWorkbookAs_InputMessage">
    <wsdl:part name="parameters" element="tns:SaveWorkbookAs" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SaveWorkbookAs_OutputMessage">
    <wsdl:part name="parameters" element="tns:SaveWorkbookAsResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SaveWorkbookAs_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q4="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q4:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ParseRange_InputMessage">
    <wsdl:part name="parameters" element="tns:ParseRange" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ParseRange_OutputMessage">
    <wsdl:part name="parameters" element="tns:ParseRangeResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ParseRange_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q5="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q5:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetRange_InputMessage">

```

```

    <wsdl:part name="parameters" element="tns:GetRange" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRange_OutputMessage">
    <wsdl:part name="parameters" element="tns:GetRangeResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRange_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q6="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q6:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRangeValues_InputMessage">
    <wsdl:part name="parameters" element="tns:GetRangeValues" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRangeValues_OutputMessage">
    <wsdl:part name="parameters" element="tns:GetRangeValuesResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRangeValues_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q7="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q7:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRangeValuesA1_InputMessage">
    <wsdl:part name="parameters" element="tns:GetRangeValuesA1" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetRangeValuesA1_OutputMessage">
    <wsdl:part name="parameters" element="tns:GetRangeValuesA1Response" />
  </wsdl:message>
  <wsdl:message
name="ExcelServiceSoap_GetRangeValuesA1_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q8="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q8:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetRange_InputMessage">
    <wsdl:part name="parameters" element="tns:SetRange" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetRange_OutputMessage">
    <wsdl:part name="parameters" element="tns:SetRangeResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetRange_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q9="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q9:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetRangeA1_InputMessage">
    <wsdl:part name="parameters" element="tns:SetRangeA1" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetRangeA1_OutputMessage">
    <wsdl:part name="parameters" element="tns:SetRangeA1Response" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetRangeA1_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q10="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q10:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetParameters_InputMessage">
    <wsdl:part name="parameters" element="tns:SetParameters" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_SetParameters_OutputMessage">
    <wsdl:part name="parameters" element="tns:SetParametersResponse" />
  </wsdl:message>

```

```

</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SetParameters_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q11="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q11:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ResizeRowsColumns_InputMessage">
  <wsdl:part name="parameters" element="tns:ResizeRowsColumns" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ResizeRowsColumns_OutputMessage">
  <wsdl:part name="parameters" element="tns:ResizeRowsColumnsResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_ResizeRowsColumns_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q12="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q12:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetRangeForClipboard_InputMessage">
  <wsdl:part name="parameters" element="tns:GetRangeForClipboard" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetRangeForClipboard_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetRangeForClipboardResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_GetRangeForClipboard_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q13="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q13:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_Refresh_InputMessage">
  <wsdl:part name="parameters" element="tns:Refresh" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_Refresh_OutputMessage">
  <wsdl:part name="parameters" element="tns:RefreshResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_Refresh_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q14="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q14:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_RefreshAll_InputMessage">
  <wsdl:part name="parameters" element="tns:RefreshAll" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_RefreshAll_OutputMessage">
  <wsdl:part name="parameters" element="tns:RefreshAllResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_RefreshAll_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q15="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q15:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_RecalcAll_InputMessage">
  <wsdl:part name="parameters" element="tns:RecalcAll" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_RecalcAll_OutputMessage">
  <wsdl:part name="parameters" element="tns:RecalcAllResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_RecalcAll_ExcelServerMessageFault_FaultMessage">

```



```

    <wsdl:part
xmlns:q16="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q16:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_CancelRequest_InputMessage">
    <wsdl:part name="parameters" element="tns:CancelRequest" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_CancelRequest_OutputMessage">
    <wsdl:part name="parameters" element="tns:CancelRequestResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_CancelRequest_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q17="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q17:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_Recalc_InputMessage">
    <wsdl:part name="parameters" element="tns:Recalc" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_Recalc_OutputMessage">
    <wsdl:part name="parameters" element="tns:RecalcResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_Recalc_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q18="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q18:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_RecalcA1_InputMessage">
    <wsdl:part name="parameters" element="tns:RecalcA1" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_RecalcA1_OutputMessage">
    <wsdl:part name="parameters" element="tns:RecalcA1Response" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_RecalcA1_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q19="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q19:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetSessionInformation_InputMessage">
    <wsdl:part name="parameters" element="tns:GetSessionInformation" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetSessionInformation_OutputMessage">
    <wsdl:part name="parameters" element="tns:GetSessionInformationResponse" />
  </wsdl:message>
  <wsdl:message
name="ExcelServiceSoap_GetSessionInformation_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q20="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q20:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_FindRange_InputMessage">
    <wsdl:part name="parameters" element="tns:FindRange" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_FindRange_OutputMessage">
    <wsdl:part name="parameters" element="tns:FindRangeResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_FindRange_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q21="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q21:ExcelServerMessage" />
  </wsdl:message>

```

```

<wsdl:message name="ExcelServiceSoap_ApplyTop10Filter_InputMessage">
  <wsdl:part name="parameters" element="tns:ApplyTop10Filter" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplyTop10Filter_OutputMessage">
  <wsdl:part name="parameters" element="tns:ApplyTop10FilterResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_ApplyTop10Filter_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q22="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q22:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplyItemFilter_InputMessage">
  <wsdl:part name="parameters" element="tns:ApplyItemFilter" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplyItemFilter_OutputMessage">
  <wsdl:part name="parameters" element="tns:ApplyItemFilterResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplyItemFilter_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q23="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q23:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SortFilterColumn_InputMessage">
  <wsdl:part name="parameters" element="tns:SortFilterColumn" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SortFilterColumn_OutputMessage">
  <wsdl:part name="parameters" element="tns:SortFilterColumnResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_SortFilterColumn_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q24="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q24:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetAutoFilterItemList_InputMessage">
  <wsdl:part name="parameters" element="tns:GetAutoFilterItemList" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetAutoFilterItemList_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetAutoFilterItemListResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_GetAutoFilterItemList_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q25="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q25:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPivotMenu_InputMessage">
  <wsdl:part name="parameters" element="tns:GetPivotMenu" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPivotMenu_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetPivotMenuResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPivotMenu_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q26="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q26:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSlicerItemList_InputMessage">
  <wsdl:part name="parameters" element="tns:GetSlicerItemList" />

```

```

</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSlicerItemList_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetSlicerItemListResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_GetSlicerItemList_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q27="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q27:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage">
  <wsdl:part name="parameters" element="tns:ConnectAndGetSlicerItemList" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage">
  <wsdl:part name="parameters" element="tns:ConnectAndGetSlicerItemListResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_ConnectAndGetSlicerItemList_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q28="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q28:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplySlicerSelection_InputMessage">
  <wsdl:part name="parameters" element="tns:ApplySlicerSelection" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplySlicerSelection_OutputMessage">
  <wsdl:part name="parameters" element="tns:ApplySlicerSelectionResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_ApplySlicerSelection_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q29="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q29:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPivotFilterItemList_InputMessage">
  <wsdl:part name="parameters" element="tns:GetPivotFilterItemList" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPivotFilterItemList_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetPivotFilterItemListResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_GetPivotFilterItemList_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q30="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q30:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage">
  <wsdl:part name="parameters" element="tns:ConnectAndGetPivotFilterItemList" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage">
  <wsdl:part name="parameters" element="tns:ConnectAndGetPivotFilterItemListResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_ConnectAndGetPivotFilterItemList_ExcelServerMessageFault_FaultMessage"
>
  <wsdl:part
xmlns:q31="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q31:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ApplyPivotFilter_InputMessage">

```

```

    <wsdl:part name="parameters" element="tns:ApplyPivotFilter" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_ApplyPivotFilter_OutputMessage">
    <wsdl:part name="parameters" element="tns:ApplyPivotFilterResponse" />
  </wsdl:message>
  <wsdl:message
name="ExcelServiceSoap_ApplyPivotFilter_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q32="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q32:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage">
    <wsdl:part name="parameters" element="tns:ApplyPivotTop10Filter" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage">
    <wsdl:part name="parameters" element="tns:ApplyPivotTop10FilterResponse" />
  </wsdl:message>
  <wsdl:message
name="ExcelServiceSoap_ApplyPivotTop10Filter_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q33="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q33:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_ApplyPivotSort_InputMessage">
    <wsdl:part name="parameters" element="tns:ApplyPivotSort" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_ApplyPivotSort_OutputMessage">
    <wsdl:part name="parameters" element="tns:ApplyPivotSortResponse" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_ApplyPivotSort_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q34="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q34:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_TogglePivotDrill_InputMessage">
    <wsdl:part name="parameters" element="tns:TogglePivotDrill" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_TogglePivotDrill_OutputMessage">
    <wsdl:part name="parameters" element="tns:TogglePivotDrillResponse" />
  </wsdl:message>
  <wsdl:message
name="ExcelServiceSoap_TogglePivotDrill_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q35="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q35:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_RemovePivotFilter_InputMessage">
    <wsdl:part name="parameters" element="tns:RemovePivotFilter" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_RemovePivotFilter_OutputMessage">
    <wsdl:part name="parameters" element="tns:RemovePivotFilterResponse" />
  </wsdl:message>
  <wsdl:message
name="ExcelServiceSoap_RemovePivotFilter_ExcelServerMessageFault_FaultMessage">
    <wsdl:part
xmlns:q36="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q36:ExcelServerMessage" />
  </wsdl:message>
  <wsdl:message name="ExcelServiceSoap_GetWorkbook_InputMessage">
    <wsdl:part name="parameters" element="tns:GetWorkbook" />
  </wsdl:message>

```

```

</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetWorkbook_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetWorkbookResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetWorkbook_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q37="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q37:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPublishedObjects_InputMessage">
  <wsdl:part name="parameters" element="tns:GetPublishedObjects" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetPublishedObjects_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetPublishedObjectsResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_GetPublishedObjects_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q38="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q38:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetObjectInformation_InputMessage">
  <wsdl:part name="parameters" element="tns:GetObjectInformation" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetObjectInformation_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetObjectInformationResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_GetObjectInformation_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q39="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q39:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSheetNames_InputMessage">
  <wsdl:part name="parameters" element="tns:GetSheetNames" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSheetNames_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetSheetNamesResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSheetNames_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q40="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q40:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSparklines_InputMessage">
  <wsdl:part name="parameters" element="tns:GetSparklines" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSparklines_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetSparklinesResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetSparklines_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q41="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q41:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetImage_InputMessage">
  <wsdl:part name="parameters" element="tns:GetImage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetImage_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetImageResponse" />

```

```

</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetImage_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q42="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q42:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetChart_InputMessage">
  <wsdl:part name="parameters" element="tns:GetChart" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetChart_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetChartResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetChart_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q43="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q43:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ExpandCollapseOutline_InputMessage">
  <wsdl:part name="parameters" element="tns:ExpandCollapseOutline" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_ExpandCollapseOutline_OutputMessage">
  <wsdl:part name="parameters" element="tns:ExpandCollapseOutlineResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_ExpandCollapseOutline_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q44="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q44:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SetCalculationOptions_InputMessage">
  <wsdl:part name="parameters" element="tns:SetCalculationOptions" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_SetCalculationOptions_OutputMessage">
  <wsdl:part name="parameters" element="tns:SetCalculationOptionsResponse" />
</wsdl:message>
<wsdl:message
name="ExcelServiceSoap_SetCalculationOptions_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q45="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q45:ExcelServerMessage" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetHealthScore_InputMessage">
  <wsdl:part name="parameters" element="tns:GetHealthScore" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetHealthScore_OutputMessage">
  <wsdl:part name="parameters" element="tns:GetHealthScoreResponse" />
</wsdl:message>
<wsdl:message name="ExcelServiceSoap_GetHealthScore_ExcelServerMessageFault_FaultMessage">
  <wsdl:part
xmlns:q46="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
name="detail" element="q46:ExcelServerMessage" />
</wsdl:message>
<wsdl:portType name="ExcelServiceSoap">
  <wsdl:operation name="OpenWorkbook">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/OpenWorkbook"
message="tns:ExcelServiceSoap_OpenWorkbook_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal

```

```

Service/ExcelServiceSoap/OpenWorkbookResponse"
message="tns:ExcelServiceSoap_OpenWorkbook_OutputMessage" />
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/OpenWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_OpenWorkbook_ExcelServerMessageFault_FaultMessage" />
  </wsdl:operation>
  <wsdl:operation name="CloseWorkbook">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CloseWorkbook"
message="tns:ExcelServiceSoap_CloseWorkbook_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CloseWorkbookResponse"
message="tns:ExcelServiceSoap_CloseWorkbook_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CloseWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_CloseWorkbook_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="SaveWorkbook">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbook"
message="tns:ExcelServiceSoap_SaveWorkbook_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookResponse"
message="tns:ExcelServiceSoap_SaveWorkbook_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SaveWorkbook_ExcelServerMessageFault_FaultMessage" />
      </wsdl:operation>
      <wsdl:operation name="SaveWorkbookAs">
        <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookAs"
message="tns:ExcelServiceSoap_SaveWorkbookAs_InputMessage" />
        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookAsResponse"
message="tns:ExcelServiceSoap_SaveWorkbookAs_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SaveWorkbookAsExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SaveWorkbookAs_ExcelServerMessageFault_FaultMessage" />
        </wsdl:operation>
        <wsdl:operation name="ParseRange">
          <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ParseRange" message="tns:ExcelServiceSoap_ParseRange_InputMessage"
/>
          <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ParseRangeResponse"
message="tns:ExcelServiceSoap_ParseRange_OutputMessage" />
          <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ParseRangeExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ParseRange_ExcelServerMessageFault_FaultMessage" />
          </wsdl:operation>

```

```

    <wsdl:operation name="GetRange">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRange" message="tns:ExcelServiceSoap_GetRange_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeResponse"
message="tns:ExcelServiceSoap_GetRange_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRange_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="GetRangeValues">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValues"
message="tns:ExcelServiceSoap_GetRangeValues_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesResponse"
message="tns:ExcelServiceSoap_GetRangeValues_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRangeValues_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="GetRangeValuesA1">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesA1"
message="tns:ExcelServiceSoap_GetRangeValuesA1_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesA1Response"
message="tns:ExcelServiceSoap_GetRangeValuesA1_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeValuesA1ExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRangeValuesA1_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="SetRange">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRange" message="tns:ExcelServiceSoap_SetRange_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeResponse"
message="tns:ExcelServiceSoap_SetRange_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SetRange_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="SetRangeA1">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeA1" message="tns:ExcelServiceSoap_SetRangeA1_InputMessage"
/>
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal

```



```

Service/ExcelServiceSoap/SetRangeAlResponse"
message="tns:ExcelServiceSoap_SetRangeAl_OutputMessage" />
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetRangeAlExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SetRangeAl_ExcelServerMessageFault_FaultMessage" />
  </wsdl:operation>
  <wsdl:operation name="SetParameters">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetParameters"
message="tns:ExcelServiceSoap_SetParameters_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetParametersResponse"
message="tns:ExcelServiceSoap_SetParameters_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetParametersExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SetParameters_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="ResizeRowsColumns">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ResizeRowsColumns"
message="tns:ExcelServiceSoap_ResizeRowsColumns_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ResizeRowsColumnsResponse"
message="tns:ExcelServiceSoap_ResizeRowsColumns_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ResizeRowsColumnsExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ResizeRowsColumns_ExcelServerMessageFault_FaultMessage" />
      </wsdl:operation>
      <wsdl:operation name="GetRangeForClipboard">
        <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeForClipboard"
message="tns:ExcelServiceSoap_GetRangeForClipboard_InputMessage" />
        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeForClipboardResponse"
message="tns:ExcelServiceSoap_GetRangeForClipboard_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetRangeForClipboardExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetRangeForClipboard_ExcelServerMessageFault_FaultMessage" />
        </wsdl:operation>
        <wsdl:operation name="Refresh">
          <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/Refresh" message="tns:ExcelServiceSoap_Refresh_InputMessage" />
          <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshResponse"
message="tns:ExcelServiceSoap_Refresh_OutputMessage" />
          <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_Refresh_ExcelServerMessageFault_FaultMessage" />
          </wsdl:operation>

```

```

    <wsdl:operation name="RefreshAll">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshAll" message="tns:ExcelServiceSoap_RefreshAll_InputMessage"
/>
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshAllResponse"
message="tns:ExcelServiceSoap_RefreshAll_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RefreshAllExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_RefreshAll_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="RecalcAll">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcAll" message="tns:ExcelServiceSoap_RecalcAll_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcAllResponse"
message="tns:ExcelServiceSoap_RecalcAll_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcAllExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_RecalcAll_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="CancelRequest">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CancelRequest"
message="tns:ExcelServiceSoap_CancelRequest_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CancelRequestResponse"
message="tns:ExcelServiceSoap_CancelRequest_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/CancelRequestExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_CancelRequest_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="Recalc">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/Recalc" message="tns:ExcelServiceSoap_Recalc_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcResponse" message="tns:ExcelServiceSoap_Recalc_OutputMessage"
/>
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_Recalc_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="RecalcA1">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcA1" message="tns:ExcelServiceSoap_RecalcA1_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcA1Response"
message="tns:ExcelServiceSoap_RecalcA1_OutputMessage" />

```

```

    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RecalcA1ExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_RecalcA1_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="GetSessionInformation">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSessionInformation"
message="tns:ExcelServiceSoap_GetSessionInformation_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSessionInformationResponse"
message="tns:ExcelServiceSoap_GetSessionInformation_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSessionInformationExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSessionInformation_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="FindRange">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/FindRange" message="tns:ExcelServiceSoap_FindRange_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/FindRangeResponse"
message="tns:ExcelServiceSoap_FindRange_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/FindRangeExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_FindRange_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="ApplyTop10Filter">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyTop10Filter"
message="tns:ExcelServiceSoap_ApplyTop10Filter_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyTop10FilterResponse"
message="tns:ExcelServiceSoap_ApplyTop10Filter_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyTop10FilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyTop10Filter_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="ApplyItemFilter">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyItemFilter"
message="tns:ExcelServiceSoap_ApplyItemFilter_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyItemFilterResponse"
message="tns:ExcelServiceSoap_ApplyItemFilter_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyItemFilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyItemFilter_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>

```

```

        <wsdl:operation name="SortFilterColumn">
            <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SortFilterColumn"
message="tns:ExcelServiceSoap_SortFilterColumn_InputMessage" />
            <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SortFilterColumnResponse"
message="tns:ExcelServiceSoap_SortFilterColumn_OutputMessage" />
            <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SortFilterColumnExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SortFilterColumn_ExcelServerMessageFault_FaultMessage" />
            </wsdl:operation>
        <wsdl:operation name="GetAutoFilterItemList">
            <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetAutoFilterItemList"
message="tns:ExcelServiceSoap_GetAutoFilterItemList_InputMessage" />
            <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetAutoFilterItemListResponse"
message="tns:ExcelServiceSoap_GetAutoFilterItemList_OutputMessage" />
            <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetAutoFilterItemListExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetAutoFilterItemList_ExcelServerMessageFault_FaultMessage" />
            </wsdl:operation>
        <wsdl:operation name="GetPivotMenu">
            <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotMenu"
message="tns:ExcelServiceSoap_GetPivotMenu_InputMessage" />
            <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotMenuResponse"
message="tns:ExcelServiceSoap_GetPivotMenu_OutputMessage" />
            <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotMenuExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetPivotMenu_ExcelServerMessageFault_FaultMessage" />
            </wsdl:operation>
        <wsdl:operation name="GetSlicerItemList">
            <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSlicerItemList"
message="tns:ExcelServiceSoap_GetSlicerItemList_InputMessage" />
            <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSlicerItemListResponse"
message="tns:ExcelServiceSoap_GetSlicerItemList_OutputMessage" />
            <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSlicerItemListExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSlicerItemList_ExcelServerMessageFault_FaultMessage" />
            </wsdl:operation>
        <wsdl:operation name="ConnectAndGetSlicerItemList">
            <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal

```

```

Service/ExcelServiceSoap/ConnectAndGetSlicerItemList"
message="tns:ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage" />
  <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ConnectAndGetSlicerItemListResponse"
message="tns:ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage" />
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ConnectAndGetSlicerItemListExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ConnectAndGetSlicerItemList_ExcelServerMessageFault_FaultMessag
e" />
  </wsdl:operation>
  <wsdl:operation name="ApplySlicerSelection">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplySlicerSelection"
message="tns:ExcelServiceSoap_ApplySlicerSelection_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplySlicerSelectionResponse"
message="tns:ExcelServiceSoap_ApplySlicerSelection_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplySlicerSelectionExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplySlicerSelection_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="GetPivotFilterItemList">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotFilterItemList"
message="tns:ExcelServiceSoap_GetPivotFilterItemList_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotFilterItemListResponse"
message="tns:ExcelServiceSoap_GetPivotFilterItemList_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPivotFilterItemListExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetPivotFilterItemList_ExcelServerMessageFault_FaultMessage" />
      </wsdl:operation>
      <wsdl:operation name="ConnectAndGetPivotFilterItemList">
        <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ConnectAndGetPivotFilterItemList"
message="tns:ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage" />
        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ConnectAndGetPivotFilterItemListResponse"
message="tns:ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ConnectAndGetPivotFilterItemListExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ConnectAndGetPivotFilterItemList_ExcelServerMessageFault_FaultM
essage" />
        </wsdl:operation>
        <wsdl:operation name="ApplyPivotFilter">
          <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotFilter"
message="tns:ExcelServiceSoap_ApplyPivotFilter_InputMessage" />

```

```

    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotFilterResponse"
message="tns:ExcelServiceSoap_ApplyPivotFilter_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotFilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyPivotFilter_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="ApplyPivotTop10Filter">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotTop10Filter"
message="tns:ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotTop10FilterResponse"
message="tns:ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotTop10FilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyPivotTop10Filter_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="ApplyPivotSort">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotSort"
message="tns:ExcelServiceSoap_ApplyPivotSort_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotSortResponse"
message="tns:ExcelServiceSoap_ApplyPivotSort_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ApplyPivotSortExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ApplyPivotSort_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="TogglePivotDrill">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/TogglePivotDrill"
message="tns:ExcelServiceSoap_TogglePivotDrill_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/TogglePivotDrillResponse"
message="tns:ExcelServiceSoap_TogglePivotDrill_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/TogglePivotDrillExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_TogglePivotDrill_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="RemovePivotFilter">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RemovePivotFilter"
message="tns:ExcelServiceSoap_RemovePivotFilter_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal

```

```

Service/ExcelServiceSoap/RemovePivotFilterResponse"
message="tns:ExcelServiceSoap_RemovePivotFilter_OutputMessage" />
  <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/RemovePivotFilterExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_RemovePivotFilter_ExcelServerMessageFault_FaultMessage" />
  </wsdl:operation>
  <wsdl:operation name="GetWorkbook">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetWorkbook" message="tns:ExcelServiceSoap_GetWorkbook_InputMessage"
/>
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetWorkbookResponse"
message="tns:ExcelServiceSoap_GetWorkbook_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetWorkbookExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetWorkbook_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="GetPublishedObjects">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPublishedObjects"
message="tns:ExcelServiceSoap_GetPublishedObjects_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPublishedObjectsResponse"
message="tns:ExcelServiceSoap_GetPublishedObjects_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetPublishedObjectsExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetPublishedObjects_ExcelServerMessageFault_FaultMessage" />
      </wsdl:operation>
      <wsdl:operation name="GetObjectInformation">
        <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetObjectInformation"
message="tns:ExcelServiceSoap_GetObjectInformation_InputMessage" />
        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetObjectInformationResponse"
message="tns:ExcelServiceSoap_GetObjectInformation_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetObjectInformationExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetObjectInformation_ExcelServerMessageFault_FaultMessage" />
        </wsdl:operation>
        <wsdl:operation name="GetSheetNames">
          <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSheetNames"
message="tns:ExcelServiceSoap_GetSheetNames_InputMessage" />
          <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSheetNamesResponse"
message="tns:ExcelServiceSoap_GetSheetNames_OutputMessage" />
          <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal

```

```

Service/ExcelServiceSoap/GetSheetNamesExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSheetNames_ExcelServerMessageFault_FaultMessage" />
  </wsdl:operation>
  <wsdl:operation name="GetSparklines">
    <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSparklines"
message="tns:ExcelServiceSoap_GetSparklines_InputMessage" />
    <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSparklinesResponse"
message="tns:ExcelServiceSoap_GetSparklines_OutputMessage" />
    <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetSparklinesExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetSparklines_ExcelServerMessageFault_FaultMessage" />
    </wsdl:operation>
    <wsdl:operation name="GetImage">
      <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetImage" message="tns:ExcelServiceSoap_GetImage_InputMessage" />
      <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetImageResponse"
message="tns:ExcelServiceSoap_GetImage_OutputMessage" />
      <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetImageExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetImage_ExcelServerMessageFault_FaultMessage" />
      </wsdl:operation>
      <wsdl:operation name="GetChart">
        <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetChart" message="tns:ExcelServiceSoap_GetChart_InputMessage" />
        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetChartResponse"
message="tns:ExcelServiceSoap_GetChart_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetChartExcelServerMessageFault" name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetChart_ExcelServerMessageFault_FaultMessage" />
        </wsdl:operation>
        <wsdl:operation name="ExpandCollapseOutline">
          <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ExpandCollapseOutline"
message="tns:ExcelServiceSoap_ExpandCollapseOutline_InputMessage" />
          <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ExpandCollapseOutlineResponse"
message="tns:ExcelServiceSoap_ExpandCollapseOutline_OutputMessage" />
          <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/ExpandCollapseOutlineExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_ExpandCollapseOutline_ExcelServerMessageFault_FaultMessage" />
          </wsdl:operation>
          <wsdl:operation name="SetCalculationOptions">
            <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetCalculationOptions"
message="tns:ExcelServiceSoap_SetCalculationOptions_InputMessage" />

```



```

        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetCalculationOptionsResponse"
message="tns:ExcelServiceSoap_SetCalculationOptions_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/SetCalculationOptionsExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_SetCalculationOptions_ExcelServerMessageFault_FaultMessage" />
        </wsdl:operation>
        <wsdl:operation name="GetHealthScore">
        <wsdl:input
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetHealthScore"
message="tns:ExcelServiceSoap_GetHealthScore_InputMessage" />
        <wsdl:output
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetHealthScoreResponse"
message="tns:ExcelServiceSoap_GetHealthScore_OutputMessage" />
        <wsdl:fault
wsam:Action="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternal
Service/ExcelServiceSoap/GetHealthScoreExcelServerMessageFault"
name="ExcelServerMessageFault"
message="tns:ExcelServiceSoap_GetHealthScore_ExcelServerMessageFault_FaultMessage" />
        </wsdl:operation>
    </wsdl:portType>
    <wsdl:binding name="CustomBinding_ExcelServiceSoap" type="tns:ExcelServiceSoap">
        <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="OpenWorkbook">
            <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/OpenWorkbook" style="document" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ExcelServerMessageFault">
                <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="CloseWorkbook">
            <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/CloseWorkbook" style="document" />
            <wsdl:input>
                <soap:body use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body use="literal" />
            </wsdl:output>
            <wsdl:fault name="ExcelServerMessageFault">
                <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="SaveWorkbook">
            <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/SaveWorkbook" style="document" />
            <wsdl:input>

```

```

        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="SaveWorkbookAs">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/SaveWorkbookAs" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ParseRange">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/ParseRange" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetRange">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/GetRange" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetRangeValues">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/GetRangeValues" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>

```

```

    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="GetRangeValuesA1">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/GetRangeValuesA1" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="SetRange">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/SetRange" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="SetRangeA1">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/SetRangeA1" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="SetParameters">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/SetParameters" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>

```

```

</wsdl:operation>
<wsdl:operation name="ResizeRowsColumns">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/ResizeRowsColumns" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetRangeForClipboard">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/GetRangeForClipboard" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="Refresh">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/Refresh" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RefreshAll">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/RefreshAll" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RecalcAll">

```

```

    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/RecalcAll" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="CancelRequest">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/CancelRequest" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="Recalc">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/Recalc" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RecalcAll">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/RecalcAll" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetSessionInformation">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/GetSessionInformation" style="document" />
    <wsdl:input>

```

```

        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="FindRange">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/FindRange" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ApplyTop10Filter">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/ApplyTop10Filter" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ApplyItemFilter">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/ApplyItemFilter" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="SortFilterColumn">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/SortFilterColumn" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>

```

```

    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="GetAutoFilterItemList">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/GetAutoFilterItemList" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="GetPivotMenu">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/GetPivotMenu" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="GetSlicerItemList">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/GetSlicerItemList" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="ConnectAndGetSlicerItemList">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
      ervice/ExcelServiceSoap/ConnectAndGetSlicerItemList" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>

```

```

</wsdl:operation>
<wsdl:operation name="ApplySlicerSelection">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/ApplySlicerSelection" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetPivotFilterItemList">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/GetPivotFilterItemList" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ConnectAndGetPivotFilterItemList">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/ConnectAndGetPivotFilterItemList" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ApplyPivotFilter">
  <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/ApplyPivotFilter" style="document" />
  <wsdl:input>
    <soap:body use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body use="literal" />
  </wsdl:output>
  <wsdl:fault name="ExcelServerMessageFault">
    <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ApplyPivotTop10Filter">

```



```

    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/ApplyPivotTop10Filter" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ApplyPivotSort">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/ApplyPivotSort" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="TogglePivotDrill">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/TogglePivotDrill" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RemovePivotFilter">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/RemovePivotFilter" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetWorkbook">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/GetWorkbook" style="document" />
    <wsdl:input>

```

```

        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetPublishedObjects">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/GetPublishedObjects" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetObjectInformation">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/GetObjectInformation" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetSheetNames">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/GetSheetNames" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
        <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetSparklines">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternals
ervice/ExcelServiceSoap/GetSparklines" style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>

```

```

    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="GetImage">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/GetImage" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="GetChart">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/GetChart" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="ExpandCollapseOutline">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/ExpandCollapseOutline" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="SetCalculationOptions">
    <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/SetCalculationOptions" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>

```

```
</wsdl:operation>
  <wsdl:operation name="GetHealthScore">
    <soap:operation
      soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/GetHealthScore" style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
    <wsdl:fault name="ExcelServerMessageFault">
      <soap:fault use="literal" name="ExcelServerMessageFault" namespace="" />
    </wsdl:fault>
  </wsdl:operation>
</wsdl:binding>
</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® SharePoint® Server 2010

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 2.2.4.15](#): If the date value is the 0th day in the month of January of the year 1900, then Excel Calculation Services 2010 sets the value of the **Day** element to 0.

<2> [Section 2.2.4.15](#): If the date value is the 0th day in the month of January of the year 1900, then Excel Calculation Services 2010 sets the value of the **Day** element to 0.

<3> [Section 2.2.5.19](#): Excel Calculation Services 2010 uses the **A1** notation. See [\[MSFT-ACRR\]](#).

<4> [Section 2.2.9.1](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<5> [Section 3.1.4.1](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<6> [Section 3.1.4.2](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<7> [Section 3.1.4.3](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<8> [Section 3.1.4.4](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<9> [Section 3.1.4.5](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<10> [Section 3.1.4.6](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<11> [Section 3.1.4.7](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<12> [Section 3.1.4.8](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<13> [Section 3.1.4.9](#): Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

- <14> [Section 3.1.4.10:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <15> [Section 3.1.4.11:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <16> [Section 3.1.4.12:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <17> [Section 3.1.4.13:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <18> [Section 3.1.4.14:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <19> [Section 3.1.4.15:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <20> [Section 3.1.4.16:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <21> [Section 3.1.4.17:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <22> [Section 3.1.4.18:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <23> [Section 3.1.4.19:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <24> [Section 3.1.4.20:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <25> [Section 3.1.4.21:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <26> [Section 3.1.4.22:](#) Excel Calculation Services 2010 returns the **SpecifiedItemNotFound** value specified in the [ExcelServerMessageId](#) section if a user does not have Open Item permission and if the requested range is not wholly contained inside a published item.
- <27> [Section 3.1.4.22:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <28> [Section 3.1.4.23:](#) Excel Calculation Services 2010 returns the **SpecifiedItemNotFound** value specified in the [ExcelServerMessageId](#) section if a user does not have Open Item permission and if the requested range is not wholly contained inside a published item.
- <29> [Section 3.1.4.23:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <30> [Section 3.1.4.24:](#) Excel Calculation Services 2010 returns the **SpecifiedItemNotFound** value specified in the [ExcelServerMessageId](#) section if a user does not have Open Item permission and if the requested range is not wholly contained inside a published item.
- <31> [Section 3.1.4.24:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

- <32> [Section 3.1.4.25:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <33> [Section 3.1.4.25.2.2:](#) Excel Calculation Services 2010 returns "Excel Calculation Services (14.0)" when the **GetSessionInformation** operation is called.
- <34> [Section 3.1.4.26:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <35> [Section 3.1.4.27:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <36> [Section 3.1.4.28:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <37> [Section 3.1.4.29:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <38> [Section 3.1.4.30:](#) Excel Calculation Services 2010 has exceptions as noted in [\[MSDN-UFES\]](#).
- <39> [Section 3.1.4.30:](#) Excel Calculation Services 2010 has exceptions as noted in [\[MSDN-UFES\]](#).
- <40> [Section 3.1.4.30:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <41> [Section 3.1.4.30.3.1:](#) Excel Calculation Services 2010 will attempt to fallback to a **fallback UI culture** when an unsupported UI culture is requested.
- <42> [Section 3.1.4.31:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <43> [Section 3.1.4.32:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <44> [Section 3.1.4.33:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <45> [Section 3.1.4.34:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <46> [Section 3.1.4.35:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <47> [Section 3.1.4.36:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <48> [Section 3.1.4.37:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <49> [Section 3.1.4.38:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <50> [Section 3.1.4.39:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).
- <51> [Section 3.1.4.40:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<52> [Section 3.1.4.41:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<53> [Section 3.1.4.42:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<54> [Section 3.1.4.43:](#) Excel Calculation Services 2010 will set the values sent by the protocol client and will not return an error if **rangeValues** contains values in only one dimension (A single column (2) or a single row (2)), and the first worksheet cell of **rangeCoordinates** falls on a workbook parameter.

<55> [Section 3.1.4.43:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<56> [Section 3.1.4.44:](#) Excel Calculation Services 2010 will set the values sent by the protocol client and will not return an error if the **Value** in **RangeValuesA1** contains values in only one dimension (A single column (2) or a single row (2)), and the first worksheet cell of **rangeName** in **RangeValuesA1** falls on a workbook parameter.

<57> [Section 3.1.4.44:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<58> [Section 3.1.4.45:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<59> [Section 3.1.4.46:](#) Excel Calculation Services 2010 can use any of the values specified in [ExcelServerMessageId](#).

<60> [Section 3.1.5.1:](#) Excel Calculation Services 2010 times out sessions (2) which are not edit sessions after a period of time of inactivity. This period of time is configurable.

<61> [Section 3.1.5.2:](#) In Excel Calculation Services 2010, only some operations time out. Other operations can go over the allotted time.

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](#) 105
[Applicability](#) 20
[ArrayOfAnyType complex type](#) 27
[ArrayOfAutoFilterCriteria complex type](#) 28
[ArrayOfAutoFilterDateNodeInfo complex type](#) 28
[ArrayOfExcelServerMessage complex type](#) 28
[ArrayOfInt complex type](#) 28
[ArrayOfPivotFilterItem complex type](#) 29
[ArrayOfPresenceUserInfo complex type](#) 29
[ArrayOfRangeValuesA1 complex type](#) 29
[ArrayOfSlicerFormatElement complex type](#) 29
[ArrayOfSlicerItem complex type](#) 30
[ArrayOfString complex type](#) 30
[Attribute groups](#) 103
[Attributes](#) 102
[AutoFilterCriteria complex type](#) 31
[AutoFilterCriteriaType simple type](#) 75
[AutoFilterDateNodeInfo complex type](#) 31
[AutoFilterDateNodeType simple type](#) 77
[AutoFilterOperationType simple type](#) 78
[AutoFilterOptions complex type](#) 32
[AutoFilterRelationOperator simple type](#) 79

B

[BorderFormat complex type](#) 33

C

[Capability negotiation](#) 21
[CellCompoundValue complex type](#) 34
[CellError simple type](#) 79
[Change tracking](#) 329
Client
 [overview](#) 104
[CollaborationParameter complex type](#) 35
[CollaborationResult complex type](#) 35
[CollaborationState complex type](#) 35
[CommandParameter complex type](#) 36
[CommandParameterFlags simple type](#) 80
[CommandResult complex type](#) 38
[CommandResultExtendedInfo complex type](#) 39
[Common list of IDs - fault](#) 103
[Complex types](#) 23
 [ArrayOfAnyType](#) 27
 [ArrayOfAutoFilterCriteria](#) 28
 [ArrayOfAutoFilterDateNodeInfo](#) 28
 [ArrayOfExcelServerMessage](#) 28
 [ArrayOfInt](#) 28
 [ArrayOfPivotFilterItem](#) 29
 [ArrayOfPresenceUserInfo](#) 29
 [ArrayOfRangeValuesA1](#) 29
 [ArrayOfSlicerFormatElement](#) 29
 [ArrayOfSlicerItem](#) 30
 [ArrayOfString](#) 30
 [AutoFilterCriteria](#) 31

[AutoFilterDateNodeInfo](#) 31
[AutoFilterOptions](#) 32
[BorderFormat](#) 33
[CellCompoundValue](#) 34
[CollaborationParameter](#) 35
[CollaborationResult](#) 35
[CollaborationState](#) 35
[CommandParameter](#) 36
[CommandResult](#) 38
[CommandResultExtendedInfo](#) 39
[ExcelServerMessage](#) 40
[ExcelServerMessage \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 26
[PeriodicRefreshInfo](#) 41
[PivotFilterItem](#) 41
[PivotFilterItemList](#) 42
[PivotOperationOptions](#) 42
[PresenceUserId](#) 45
[PresenceUserInfo](#) 45
[RangeValuesA1](#) 45
[RequestLimits](#) 46
[ServerHealthInformation](#) 46
[ServerHealthInformation \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 27
[SheetRange](#) 46
[SlicerFontType](#) 47
[SlicerFormatElement](#) 48
[SlicerFormatElementList](#) 49
[SlicerItem](#) 50
[SlicerItemList](#) 50
[SlicerOptions](#) 50
[SlicerView](#) 51
[TypeExporter](#) 52
[VisibleSheetRange](#) 53
[WorkOnBehalf](#) 57

D

Data model - abstract
 [server](#) 105

E

Events
 [local - server](#) 238
Examples
 [filtering and sorting a list and returning XML](#) 239
[ExcelServerMessage \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) complex type](#) 26
[ExcelServerMessage complex type](#) 40
[ExcelServerMessageAppearance \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 59
[ExcelServerMessageAppearance simple type](#) 81

[ExcelServerMessageId \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 60
[ExcelServerMessageId simple type](#) 81
[ExcelServerMessageSeverity \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 74
[ExcelServerMessageSeverity simple type](#) 93
[ExcelServerMessageType \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 74
[ExcelServerMessageType simple type](#) 94

F

[Faults](#) 103
 [common list of IDs](#) 103
[Fields - vendor-extensible](#) 21
[Filtering and sorting a list and returning XML example](#) 239
[Full WSDL](#) 252

G

[Glossary](#) 13
[Groups](#) 102
[guid \(from namespace <http://microsoft.com/wsdl/types/>\) simple type](#) 59

I

[Implementer - security considerations](#) 251
[Index of security parameters](#) 251
[Informative references](#) 18
Initialization
 [server](#) 106
[Introduction](#) 13

L

Local events
 [server](#) 238

M

Message processing
 [server](#) 106
Messages
 [ArrayOfAnyType complex type](#) 27
 [ArrayOfAutoFilterCriteria complex type](#) 28
 [ArrayOfAutoFilterDateNodeInfo complex type](#) 28
 [ArrayOfExcelServerMessage complex type](#) 28
 [ArrayOfInt complex type](#) 28
 [ArrayOfPivotFilterItem complex type](#) 29
 [ArrayOfPresenceUserInfo complex type](#) 29
 [ArrayOfRangeValuesA1 complex type](#) 29
 [ArrayOfSlicerFormatElement complex type](#) 29
 [ArrayOfSlicerItem complex type](#) 30
 [ArrayOfString complex type](#) 30
 [attribute groups](#) 103
 [attributes](#) 102
 [AutoFilterCriteria complex type](#) 31

[AutoFilterCriteriaType simple type](#) 75
[AutoFilterDateNodeInfo complex type](#) 31
[AutoFilterDateNodeType simple type](#) 77
[AutoFilterOperationType simple type](#) 78
[AutoFilterOptions complex type](#) 32
[AutoFilterRelationOperator simple type](#) 79
[BorderFormat complex type](#) 33
[CellCompoundValue complex type](#) 34
[CellError simple type](#) 79
[CollaborationParameter complex type](#) 35
[CollaborationResult complex type](#) 35
[CollaborationState complex type](#) 35
[CommandParameter complex type](#) 36
[CommandParameterFlags simple type](#) 80
[CommandResult complex type](#) 38
[CommandResultExtendedInfo complex type](#) 39
 [common list of IDs - fault](#) 103
 [complex types](#) 23
 [elements](#) 23
 [enumerated](#) 23
[ExcelServerMessage \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) complex type](#) 26
[ExcelServerMessage complex type](#) 40
[ExcelServerMessageAppearance \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 59
[ExcelServerMessageAppearance simple type](#) 81
[ExcelServerMessageId \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 60
[ExcelServerMessageId simple type](#) 81
[ExcelServerMessageSeverity \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 74
[ExcelServerMessageSeverity simple type](#) 93
[ExcelServerMessageType \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 74
[ExcelServerMessageType simple type](#) 94
[faults](#) 103
 [groups](#) 102
 [guid \(from namespace <http://microsoft.com/wsdl/types/>\) simple type](#) 59
 [NamedObjectType simple type](#) 94
 [namespaces](#) 22
 [PeriodicRefreshInfo complex type](#) 41
 [PivotFilterItem complex type](#) 41
 [PivotFilterItemList complex type](#) 42
 [PivotFilterType simple type](#) 95
 [PivotOperationOptions complex type](#) 42
 [PresenceUserId complex type](#) 45
 [PresenceUserInfo complex type](#) 45
 [RangeReference simple type](#) 100
 [RangeValuesA1 complex type](#) 45
 [RequestLimits complex type](#) 46
 [ServerHealthInformation \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) complex type](#) 27

[ServerHealthInformation complex type](#) 46
[ServerStateFlags \(from namespace http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server\) simple type](#) 75
[ServerStateFlags simple type](#) 101
[SessionIdentifier simple type](#) 101
[SheetRange complex type](#) 46
[simple types](#) 57
[SlicerFontType complex type](#) 47
[SlicerFormatElement complex type](#) 48
[SlicerFormatElementList complex type](#) 49
[SlicerItem complex type](#) 50
[SlicerItemList complex type](#) 50
[SlicerOptions complex type](#) 50
[SlicerView complex type](#) 51
[syntax](#) 22
[transport](#) 22
[TypeExporter complex type](#) 52
[VisibleSheetRange complex type](#) 53
[WorkbookType simple type](#) 102
[WorkOnBehalf complex type](#) 57

N

[NamedObjectType simple type](#) 94
[Namespaces](#) 22
[Normative references](#) 17

O

Operations

[ApplyItemFilter](#) 108
[ApplyPivotFilter](#) 111
[ApplyPivotSort](#) 114
[ApplyPivotTop10Filter](#) 117
[ApplySlicerSelection](#) 119
[ApplyTop10Filter](#) 123
[CancelRequest](#) 125
[CloseWorkbook](#) 127
[ConnectAndGetPivotFilterItemList](#) 129
[ConnectAndGetSlicerItemList](#) 131
[ExpandCollapseOutline](#) 134
[FindRange](#) 136
[GetAutoFilterItemList](#) 139
[GetChart](#) 146
[GetHealthScore](#) 149
[GetImage](#) 150
[GetObjectInformation](#) 152
[GetPivotFilterItemList](#) 154
[GetPivotMenu](#) 156
[GetPublishedObjects](#) 168
[GetRange](#) 171
[GetRangeForClipboard](#) 173
[GetRangeValues](#) 175
[GetRangeValuesA1](#) 177
[GetSessionInformation](#) 181
[GetSheetNames](#) 183
[GetSlicerItemList](#) 186
[GetSparklines](#) 188
[GetWorkbook](#) 190
[OpenWorkbook](#) 192
[ParseRange](#) 200

[Recalc](#) 202
[RecalcA1](#) 204
[RecalcAll](#) 206
[Refresh](#) 208
[RefreshAll](#) 210
[RemovePivotFilter](#) 212
[ResizeRowsColumns](#) 215
[SaveWorkbook](#) 217
[SaveWorkbookAs](#) 219
[SetCalculationOptions](#) 222
[SetParameters](#) 224
[SetRange](#) 228
[SetRangeA1](#) 231
[SortFilterColumn](#) 234
[TogglePivotDrill](#) 235
[Overview \(synopsis\)](#) 19
[protocol operations](#) 19
[published items and results returned by this protocol](#) 20
[session-based protocol](#) 19

P

[Parameters - security index](#) 251
[PeriodicRefreshInfo complex type](#) 71
[PivotFilterItem complex type](#) 41
[PivotFilterItemList complex type](#) 42
[PivotFilterType simple type](#) 95
[PivotOperationOptions complex type](#) 42
[Preconditions](#) 20
[Prerequisites](#) 20
[PresenceUserId complex type](#) 45
[PresenceUserInfo complex type](#) 45
[Product behavior](#) 325
[Protocol operations](#) 19
[Published items and results returned by this protocol](#) 20

R

[RangeReference simple type](#) 100
[RangeValuesA1 complex type](#) 45
[References](#)
 [informative](#) 18
 [normative](#) 17
[Relationship to other protocols](#) 20
[Request timeout](#)
 [timers](#) 106
[RequestLimits complex type](#) 46

S

[Security](#)
 [implementer considerations](#) 251
 [parameter index](#) 251
[Sequencing rules](#)
 [server](#) 106
[Server](#)
 [abstract data model](#) 105
 [ApplyItemFilter operation](#) 108
 [ApplyPivotFilter operation](#) 111
 [ApplyPivotSort operation](#) 114

- [ApplyPivotTop10Filter operation](#) 117
- [ApplySlicerSelection operation](#) 119
- [ApplyTop10Filter operation](#) 123
- [CancelRequest operation](#) 125
- [CloseWorkbook operation](#) 127
- [ConnectAndGetPivotFilterItemList operation](#) 129
- [ConnectAndGetSlicerItemList operation](#) 131
- [ExpandCollapseOutline operation](#) 134
- [FindRange operation](#) 136
- [GetAutoFilterItemList operation](#) 139
- [GetChart operation](#) 146
- [GetHealthScore operation](#) 149
- [GetImage operation](#) 150
- [GetObjectInformation operation](#) 152
- [GetPivotFilterItemList operation](#) 154
- [GetPivotMenu operation](#) 156
- [GetPublishedObjects operation](#) 168
- [GetRange operation](#) 171
- [GetRangeForClipboard operation](#) 173
- [GetRangeValues operation](#) 175
- [GetRangeValuesA1 operation](#) 177
- [GetSessionInformation operation](#) 181
- [GetSheetNames operation](#) 183
- [GetSlicerItemList operation](#) 186
- [GetSparklines operation](#) 188
- [GetWorkbook operation](#) 190
- [initialization](#) 106
- [local events](#) 238
- [message processing](#) 106
- [OpenWorkbook operation](#) 192
- [overview](#) 104
- [ParseRange operation](#) 200
- [Recalc operation](#) 202
- [RecalcA1 operation](#) 204
- [RecalcAll operation](#) 206
- [Refresh operation](#) 208
- [RefreshAll operation](#) 210
- [RemovePivotFilter operation](#) 212
- [ResizeRowsColumns operation](#) 215
- [SaveWorkbook operation](#) 217
- [SaveWorkbookAs operation](#) 219
- [sequencing rules](#) 106
- [SetCalculationOptions operation](#) 222
- [SetParameters operation](#) 224
- [SetRange operation](#) 228
- [SetRangeA1 operation](#) 231
- [SortFilterColumn operation](#) 234
- [TogglePivotDrill operation](#) 235
- [ServerHealthInformation \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) complex type](#) 27
- [ServerHealthInformation complex type](#) 46
- [ServerStateFlags \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\) simple type](#) 75
- [ServerStateFlags simple type](#) 101
- Session timeout
 - [timers](#) 106
- [Session-based protocol](#) 19
- [SessionIdentifier simple type](#) 101
- [SheetRange complex type](#) 46

- [Simple types](#) 57
 - [AutoFilterCriteriaType](#) 75
 - [AutoFilterDateNodeType](#) 77
 - [AutoFilterOperationType](#) 78
 - [AutoFilterRelationOperator](#) 79
 - [CellError](#) 79
 - [CommandParameterFlags](#) 80
 - [ExcelServerMessageAppearance](#) 81
 - [ExcelServerMessageAppearance \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 59
 - [ExcelServerMessageId](#) 81
 - [ExcelServerMessageId \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 60
 - [ExcelServerMessageSeverity](#) 93
 - [ExcelServerMessageSeverity \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 74
 - [ExcelServerMessageType](#) 94
 - [ExcelServerMessageType \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 74
 - [guid \(from namespace <http://microsoft.com/wsdl/types/>\)](#) 59
 - [NamedObjectType](#) 94
 - [PivotFilterType](#) 95
 - [RangeReference](#) 100
 - [ServerStateFlags](#) 101
 - [ServerStateFlags \(from namespace <http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server>\)](#) 75
 - [SessionIdentifier](#) 101
 - [WorkbookType](#) 102
- [SlicerFontType complex type](#) 47
- [SlicerFormatElement complex type](#) 48
- [SlicerFormatElementList complex type](#) 49
- [SlicerItem complex type](#) 50
- [SlicerItemList complex type](#) 50
- [SlicerOptions complex type](#) 50
- [SlicerView complex type](#) 51
- [Standards assignments](#) 21
- Syntax
 - [messages - overview](#) 22

T

- Timers
 - [request timeout](#) 106
 - [session timeout](#) 106
- [Tracking changes](#) 329
- [Transport](#) 22
- [TypeExporter complex type](#) 52
- Types
 - [complex](#) 23
 - [simple](#) 57

V

- [Vendor-extensible fields](#) 21
- [Versioning](#) 21

[VisibleSheetRange complex type](#) 53

W

[WorkbookType simple type](#) 102

[WorkOnBehalf complex type](#) 57

[WSDL](#) 252