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

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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.

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

1.1 Glossary

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

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 data table
chart sheet
checked out
child
child PivotTable member
clear all state
collapse
collapsed outline state
color stop
column
confirmation
connected data
control button
cube
cube function
custom filter
custom label filter
custom value filter
data connection

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data culture
data provider
data source
data table
default column
default filter value
default row
default sheet
descendant
descending order
dimension
document library
edit session
embedded image
encrypted document
end user presence
endpoint
expand
expanded outline state
expire
external data
fallback data culture
fallback UI culture
farm
file
fill color
filter
filter date value
filter value
filtering state
font face color
font face decoration
font face weight
formula
gradient fill
grow
GUID
Help topic identifier
hidden
hierarchy
horizontal indent
host data language
Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
Information Rights Management (IRM)
item
level
license key
list
locked
manual calculation mode
manual filter
member
member property
merged cell

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Message Bar notification
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 area
PivotTable data field
PivotTable field
PivotTable filter parameter
PivotTable member
PivotTable page field
pixel
point
published
published item
published items snapshot
published range
published sheet
query
R1C1 notation
range
reference
refresh
rights
row
scatter chart
search down
search up
selected
session
session identifier
session recycling
sheet
site collection
site identifier
slicer
slicer header
slicer item
snapshot
SOAP
SOAP action
SOAP body
SOAP fault

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SOAP fault detail
sort
sort order
sparkline
state changing
system resources
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
Uniform Resource Identifier (URI)
Universal Naming Convention (UNC)
URL zone
user display name
user-defined function (UDF)
view session
view-only mode
visible
web service
Web Services Description Language (WSDL)
workbook
workbook file
workbook parameter
worksheet
WSDL message
WSDL operation
XML
XML namespace
XML namespace prefix
XML Schema (XSD)
zero-based index

The following terms are specific to this document:

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

1.2 References

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

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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.

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

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

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

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

[MS-SPSTWS] Microsoft Corporation, "SharePoint Security Token Service Web Service Protocol".

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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 section 1.3.2.

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

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

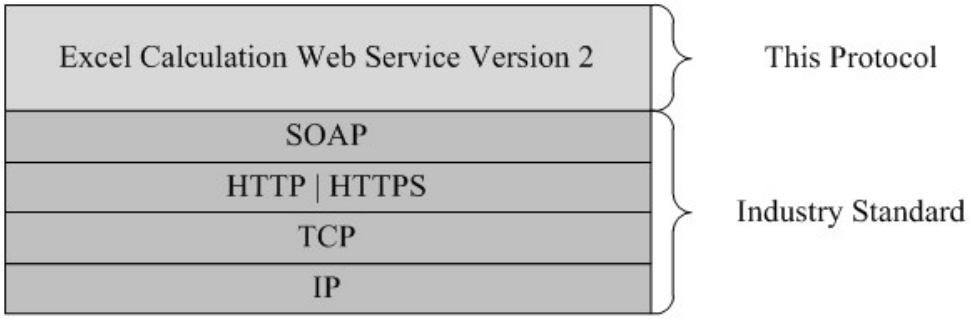

Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a 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 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 that does the following:

- 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 Simple Object Access Protocol (SOAP) messages, as described 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.

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1.9 Standards Assignments

None.

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2 Messages

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

2.1 Transport

Protocol servers MUST support SOAP over HTTP 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 defined in [XMLSCHEMA1] and [XMLSCHEMA2], and WSDL as defined 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. The following table describes these namespaces.

Prefix	Namespace URI	Reference
xsd	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]
tns	http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/	
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA

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Prefix	Namespace URI	Reference
		2]
wsam	http://www.w3.org/2007/05/addressing/metadata	[WSA1.0 Metadata]
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
q1	http://microsoft.com/wsdl/types/	

2.2.2 Messages

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 or [SOAP1.2/1] section 5.4.

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 section 2.2.4.24.

2.2.2.1 Common List of Id Element Values

The **Id** element of the **ExcelServerMessage** SHOULD<1> be one of the following values, unless specified otherwise:

- "CollabLocaleMismatch"
- "ConfirmDataRefresh"
- "EditModeAccessDenied"
- "EditModeCannotAcquireLockUnknownReason"
- "InternalError"
- "InvalidEditSession"
- "InvalidOrTimedOutSession"
- "MaxRequestDurationExceeded"
- "NewWorkbookSessionTimeout"
- "OperationOnInvalidState"
- "RefreshLockFailed"
- "RequestLimitsExceeded"
- "RetryError"
- "SavingWorkbookFailed"

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- "SessionMemoryQuotaExceeded"
- "SpecifiedRangeNotFound"
- "UnableToLoadEditSession"
- "WrongEcs"

2.2.3 Elements

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

2.2.4 Complex Types

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

Complex Type	Description
ArrayOfAnyType	The **ArrayOfAnyType** type is an array of **anyType** elements.
ArrayOfAutoFilterCriteria	The **ArrayOfAutoFilterCriteria** type is an array of **AutoFilterCriteria** elements (section 2.2.4.12).
ArrayOfAutoFilterDateNodeInfo	The **ArrayOfAutoFilterDateNodeInfo** complex type is an array of **AutoFilterDateNodeInfo** elements (section 2.2.4.13).
ArrayOfExcelServerMessage	The **ArrayOfExcelServerMessage** type is an array of **ExcelServerMessage** elements (section 2.2.4.23).
ArrayOfInt	The **ArrayOfInt** type is an array of integer elements.
ArrayOfPivotFilterItem	The **ArrayOfPivotFilterItem** type is an array of **PivotFilterItem** elements (section 2.2.4.26).
ArrayOfPresenceUserInfo	The **ArrayOfPresenceUserInfo** type is an array of **PresenceUserInfo** elements (section 2.2.4.30).
ArrayOfRangeValuesA1	The **ArrayOfRangeValuesA1** type is an array of **RangeValuesA1** elements (section 2.2.4.31).
ArrayOfSlicerFormatElement	An array of **SlicerFormatElement** elements (section 2.2.4.37). The position of the **SlicerFormatElement** in the array indicates which **slicer** visual component the **SlicerFormatElement** is applied to. The array MUST have 10 elements. The table in section 2.2.4.9.1 lists the index in the array and the corresponding slicer visual component to which the **SlicerFormatElement** at that index is applied.
ArrayOfSlicerItem	An array of **SlicerItem** elements (section 2.2.4.39).
ArrayOfString	The **ArrayOfString** complex type is an array of string elements.
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 (section 2.2.4.14) through the **ArrayOfAutoFilterCriteria** complex type (section 2.2.4.2).
AutoFilterDateNodeInfo	Specifies how AutoFilter **filter date values** are filtered by the protocol

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Complex Type	Description
	server.
AutoFilterOptions	Used to specify the filter applied to an AutoFilter **column** (2).
BorderFormat	Specifies the formatting to apply to the border of the slicer visual components.
CellCompoundValue	The **CellCompoundValue** complex type contains the number formatted and the unformatted value of a **cell**.
CollaborationParameter	The **CollaborationParameter** complex type encapsulates input about **end user presence**.
CollaborationResult	The **CollaborationResult** complex type encapsulates output about end user presence.
CollaborationState	The **CollaborationState** complex type encapsulates information about the state of the end user presence information.
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** (section 2.2.4.21).
ExcelServerMessage	An **alert** (2) information returned by the protocol server.
ExcelServerMessage	An alert (2) information returned by the protocol server.
PeriodicRefreshInfo	The **PeriodicRefreshInfo** complex type is used to return expired external data related information.
PivotFilterItem	A **PivotTable member** that is part of a PivotTable **manual filter hierarchy**.
PivotFilterItemList	A list of PivotTable members.
PivotOperationOptions	The **PivotOperationOptions** type is a container for common information used in the following operations related to PivotTables: ▪ **ApplyPivotFilter** (section 3.1.4.2) ▪ **ApplyPivotSort** (section 3.1.4.3) ▪ **ApplyPivotTop10Filter** (section 3.1.4.4) ▪ **ConnectAndGetPivotFilterItemList** (section 3.1.4.9) ▪ **GetPivotFilterItemList** (section 3.1.4.18) ▪ **GetPivotMenu** (section 3.1.4.19) ▪ **RemovePivotFilter** (section 3.1.4.37) ▪ **TogglePivotDrill** (section 3.1.4.46) Some of the elements of this type have a common use with all these

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Complex Type	Description
	operations and are specified here. Other elements have specific use information that is specified in the sections of this document addressing those operations.
PresenceUserId	The **PresenceUserId** complex type contains identifying information about end user presence for a single participant in the session (2).
PresenceUserInfo	The PresenceUserInfo complex type contains information about end user presence for a single participant in the session (2).
RangeValuesA1	The **RangeValuesA1** type is used to transfer 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.
ServerHealthInformation	Used to return information about the health of the protocol server.
SheetRange	Specifies a range on a **worksheet** in a workbook.
SlicerFontType	Font specification for a slicer visual component.
SlicerFormatElement	A slicer formatting specification.
SlicerFormatElementList	Contains an **ArrayOfSlicerFormatElement** element (section 2.2.4.9).
SlicerItem	Specifies the visual representation for a **slicer item**.
SlicerItemList	Contains an **ArrayOfSlicerItem** element (section 2.2.4.10).
SlicerOptions	A container for common information related to a slicer.
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**, as specified in [MS-EXSPXML] section 2.1.1, 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, the following apply: ▪ 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) that is used. ▪ Otherwise, the protocol server locates a **published item** by matching **ObjectName** to the name of the published item. ▪ If a match is found, the sheet (2) that contains the

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Complex Type	Description
	matching published item MUST be used. ▪ Otherwise, the protocol server MUST return an **ExcelServerMessage,** as specified in section 2.2.4.24. The **Id** element of the **ExcelServerMessage** MUST be "EcsInvalidNamedObject". ▪ The protocol server locates a **published range** that 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) that exactly matches **ExcelRange**. ▪ If a match was found, the published item is the **baseline range**. ▪ Otherwise, the protocol server MUST return an **ExcelServerMessage**, as specified in section 2.2.4.24. The **Id** element of the **ExcelServerMessage** MUST be "EcsInvalidNamedObject"**.** ▪ If **ExcelRange** is not present or is empty, the protocol server locates **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 2.2.4.24. 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) that contains the first published item MUST be used. ▪ The protocol server locates a published range that exactly matches **ExcelRange** on the **baseline range**'s sheet (2). ▪ If a match is found, the published range is the **baseline range**.

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Complex Type	Description
	▪ Otherwise, the protocol server locates a published item on the **baseline range**'s sheet (2) that exactly matches **ExcelRange**. ▪ 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 2.2.4.24. 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 one of the following: ▪ The first visible row (2) at or after the first row (2) of **baseline range+VisibleFirstRowOffset**, if **VisibleFirstRowOffset** is greater than or equal to zero. ▪ The first visible row (2) at or before the first row (2) of **baseline range+VisibleFirstRowOffset**, if **VisibleFirstRowOffset** is less than zero. ▪ If **baseline range+VisibleFirstRowOffset** is less than zero, the protocol server MUST return an **ExcelServerMessage**, as specified in section 2.2.4.24. The **Id** element of the

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Complex Type	Description
	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) is 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 zero, 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 the first column of **baseline range+VisibleFirstColumnOffset**, if **VisibleFirstColumnOffset** is greater than or equal to zero. ▪ The first visible column at or before the first column of **baseline range+VisibleFirstColumnOffset**, if **VisibleFirstColumnOffset** is less than zero. ▪ If **baseline range+VisibleFirstColumnOffset** is less than zero, the protocol server MUST return an **ExcelServerMessage**, as specified in the section 2.2.4.24. 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 is 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 zero and less than or equal to 16,383. 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 covered by a published chart, and either **ObjectName** is present and not empty, or **ObjectName** is not present or is empty, and the workbook contains published items, the returned **Workbook** ([MS-EXSPXML] section 2.1.1) contains the **CT_Images** element ([MS-EXSPXML] section 2.2.34) with a single **CT_Image** element ([MS-EXSPXML] section 2.2.33). The **type** attribute for the **CT_Image** element ([MS-EXSPXML] section 2.2.33) MUST be **chart**, as specified in [MS-EXSPXML] section 2.2.33.
WorkOnBehalf	MUST NOT be used.

2.2.4.1 ArrayOfAnyType

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

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

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

anyType: An **anyType** value.

2.2.4.2 ArrayOfAutoFilterCriteria

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

The **ArrayOfAutoFilterCriteria** type is an array of **AutoFilterCriteria** elements (section 2.2.4.12).

```
<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 section 2.2.4.12.

2.2.4.3 ArrayOfAutoFilterDateNodeInfo

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

The **ArrayOfAutoFilterDateNodeInfo** complex type is an array of **AutoFilterDateNodeInfo** elements (section 2.2.4.13).

```
<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 section 2.2.4.13.

2.2.4.4 ArrayOfExcelServerMessage

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

The **ArrayOfExcelServerMessage** type is an array of **ExcelServerMessage** elements (section 2.2.4.23).

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


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

ExcelServerMessage: An alert (2) as specified in section 2.2.4.23.

2.2.4.5 ArrayOfInt

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

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.

2.2.4.6 ArrayOfPivotFilterItem

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

The **ArrayOfPivotFilterItem** type is an array of **PivotFilterItem** elements (section 2.2.4.26).

```
<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 section 2.2.4.26.

2.2.4.7 ArrayOfPresenceUserInfo

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

The **ArrayOfPresenceUserInfo** type is an array of **PresenceUserInfo** elements (section 2.2.4.30).

```
<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 section 2.2.4.30.

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2.2.4.8 ArrayOfRangeValuesA1

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

The **ArrayOfRangeValuesA1** type is an array of **RangeValuesA1** elements (section 2.2.4.31).

```
<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 section 2.2.4.31.

2.2.4.9 ArrayOfSlicerFormatElement

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

An array of **SlicerFormatElement** elements (section 2.2.4.37). The position of the **SlicerFormatElement** in the array indicates which slicer visual component the **SlicerFormatElement** is applied to.

The array MUST have 10 elements. The table in section 2.2.4.9.1 lists the index in the array and the corresponding slicer visual component to which the **SlicerFormatElement** at that index is applied.

```
<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 section 2.2.4.37.

2.2.4.9.1 Slicer Visual component Table

The following table lists the index in the array of **SlicerFormatElement** elements and the corresponding slicer visual component to which the **SlicerFormatElement** at that index is applied.

Index	Slicer visual component
0	Equivalent to the meaning of **TseType TSEWHOLETABLE**, as specified in [MS-XLSB] section 2.5.149.
1	Equivalent to the meaning of **TseType TSEHEADERROW**, as specified in [MS-XLSB] section 2.5.155.
2	Equivalent to the meaning of **TseType TSESLICERITEMSELECTED**, as specified in [MS-XLSB] section 2.5.155.
3	Equivalent to the meaning of **TseType TSESLICERITEMUNSELECTED**, as specified in [MS-XLSB] section 2.5.155.

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Index	Slicer visual component
4	Equivalent to the meaning of **TseType TSESLICERITEMNODATA**, as specified in [MS-XLSB] section 2.5.155.
5	Equivalent to the meaning of **TseType TSESLICERITEMNODATASELECTED**, as specified in [MS-XLSB] section 2.5.155.
6	Equivalent to the meaning of **TseType TSESLICERITEMSELECTEDHOVER** specified in [MS-XLSB] section 2.5.155.
7	Equivalent to the meaning of **TseType TSESLICERITEMUNSELECTEDHOVER**, as specified in [MS-XLSB] section 2.5.155.
8	Equivalent to the meaning of **TseType TSESLICERITEMNODATAHOVER**, as specified in [MS-XLSB] section 2.5.155.
9	Equivalent to the meaning of **TseType TSESLICERITEMNODATASELECTEDHOVER**, as specified in [MS-XLSB] section 2.5.155.

2.2.4.10 ArrayOfSlicerItem

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

An array of **SlicerItem** elements (section 2.2.4.39).

```
<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 section 2.2.4.39.

2.2.4.11 ArrayOfString

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

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.

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2.2.4.12 AutoFilterCriteria

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

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 (section 2.2.4.14) through the **ArrayOfAutoFilterCriteria** complex type (section 2.2.4.2).

```
<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 section 2.2.5.3. Used when comparing the **Value** element as specified in section 2.2.4.14.

Relation: Specifies how to combine an instance of this filter with one appearing after it in an **ArrayOfAutoFilterCriteria**. When this complex type is the last element inside an **ArrayOfAutoFilterCriteria**, it MUST contain the "Nil" value specified in section 2.2.5.4. When this complex type is not the last element inside an **ArrayOfAutoFilterCriteria**, it MUST contain either the "And" or "Or" values specified in section 2.2.5.4.

Value: The string that will be used to filter a worksheet or a table. MUST be present. MUST NOT be longer than 32,768 characters.

2.2.4.13 AutoFilterDateNodeInfo

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

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 section 2.2.5.2.

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

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

Day: The day part of a date. MUST be greater than or equal to zero and less than or equal to 31, and SHOULD<2> 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<3> ignore the value zero ("0").

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

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

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

2.2.4.14 AutoFilterOptions

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

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 (section 2.2.4.12) that specify how values are filtered. If the **CriteriaType** element contains a value different from "Nil", 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 section 2.2.5.1.

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", this element MUST contain a value that was previously returned from

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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", the following apply:

- 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", the following apply:

- 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", this value MUST be greater than or equal to 1 and less than or equal to the number of columns in the Table containing the AutoFilter. If the **AutoFilterType** element contains the value "Sheet", 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 that 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.

2.2.4.15 BorderFormat

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

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 the 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 zero, 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 2.5.89.

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

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Left border, and the fourth element is the Right border. The value of each element in the array MUST be one of the values described in the following table.

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, **Position** MUST be zero. 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

2.2.4.16 CellCompoundValue

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

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

```
<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:

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- Boolean
- Double
- String
- **CellError** as specified in section 2.2.5.5.

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

2.2.4.17 CollaborationParameter

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

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 section 2.2.4.19. MUST be present.

2.2.4.18 CollaborationResult

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

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 section 2.2.4.19. MUST be present.

Users: An **ArrayOfPresenceUserInfo** as specified in **ArrayOfPresenceUserInfo** (section 2.2.4.7).

2.2.4.19 CollaborationState

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

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

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


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```
  <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 zero or greater.

2.2.4.20 CommandParameter

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

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

```
<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** (section 3.1.4.30.2.2). See section 2.2.5.21. If present, it MUST NOT be empty. For all operations other than **OpenWorkbook** (section 3.1.4.30), MUST have a value that has been obtained from a previous call to **OpenWorkbook**. For **OpenWorkbook**, the following apply:

- If a session identifier has already been returned by the protocol server for a previous **OpenWorkbook**, **WorkbookId** MUST have that value.
- If this operation is used to create a new session (2) on the protocol server, 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.

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VisibleSheetRangeRequest: The requested range that is returned by the protocol server in **SpreadsheetData**, as specified in section 2.2.4.21. See section 2.2.4.44.

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 any one of the following values:

- "Internet"
- "Intranet"
- "Extranet"
- "Default"
- "Custom"

PreviousOwnerId: The instance identifier of a protocol server, as specified in section 3.1.1. If the current request is not **OpenWorkbook**, MUST NOT be present. Otherwise, if the last response from a protocol server has returned a soap fault, as specified in section 2.2.2, with the **WrongEcs** value in the **Id** element of the returned **ExcelServerMessage**, 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 section 3.1.1. If the last response on the same session from the protocol server has returned a **CommandResult** that contained a non-empty value for the **RequestId** element, 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 section 3.1.1.

Flags: Control flags as specified in section 2.2.5.6.

RequestLimits: Request limits as specified in section 2.2.4.32.

CollaborationParameter: End user presence information as specified in section 2.2.4.17. MUST NOT be present if the associated session (2) is not an edit session. The **UserListVersion** element of **CollaborationState** contains the last non-empty **CollaborationState** value received in a response on the same session from the protocol server.

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2.2.4.21 CommandResult

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

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

```
<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 section 2.2.4.44. MUST NOT be present if **VisibleSheetRangeRequest** was not present in **CommandParameter** (section 2.2.4.20) 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** (section 2.2.4.25). 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** (section 2.2.4.34).

SecondsBeforeNextPoll: MUST be ignored by the protocol client.

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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, the following apply:

- 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 section 3.1.1. 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** (section 2.2.4.18). 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** contains 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 less than the **UserListVersion** of the session (2). It contains a list of **PresenceUserInfo** elements, representing the current participants of the session (2), as specified in **PresenceUserInfo** (section 2.2.4.30).

2.2.4.22 CommandResultExtendedInfo

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

The **CommandResultExtendedInfo** complex type provides extended information for **CommandResult** (section 2.2.4.21).

```
<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 section 2.2.4.4. 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** (section 2.2.4.20). 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).

2.2.4.23 ExcelServerMessage

Namespace: http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server

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

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```
<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="HasClientUrl" type="xs:boolean"/>
    <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 section 2.2.5.7. 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).

HasClientUrl: MUST be ignored by the protocol client.

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 section 2.2.4.34. 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 section 2.2.5.10. MUST be present.

Severity: The severity of the alert (2), as specified in section 2.2.5.12. MUST be present.

Type: The type of the alert (2), as specified in section 2.2.5.14. MUST be present.

WrongEcsServerId: The instance identifier of a protocol server, as specified in section 3.1.1.

2.2.4.24 ExcelServerMessage

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

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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="HasClientUrl" 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.

HasClientUrl: Specifies that an **absolute path** exists for the workbook file. MUST be "true" if the value of the **ClientWorkbookUri** element of **OpenWorkbookOutParameters** (section 3.1.4.30.3.2) is present and is not empty, and MUST be set to "false" otherwise.

Id: The identifier of the alert (2), as specified in section 2.2.5.9.

Severity: The severity of the alert (2), as specified in section 2.2.5.11.

Type: The type of the alert (2), as specified in section 2.2.5.13.

Appearance: The control buttons or **Message Bar notification** flag associated with the alert (2), as specified in section 2.2.5.7.

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 section 2.2.4.34.

WrongEcsServerId: The instance identifier of a protocol server, as specified in section 3.1.1.

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2.2.4.25 PeriodicRefreshInfo

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

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 zero.

ConnectionNames: The names of the **data connections** (2) that 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.

2.2.4.26 PivotFilterItem

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

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.

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Id: A unique identifier of the PivotTable member. MUST be greater than or equal to zero. 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.

2.2.4.27 PivotFilterItemList

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

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** (section 3.1.4.9) and **GetPivotFilterItemList** (section 3.1.4.18). 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 (section 2.2.4.26), 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.

2.2.4.28 PivotOperationOptions

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

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

- **ApplyPivotFilter** (section 3.1.4.2)
- **ApplyPivotSort** (section 3.1.4.3)
- **ApplyPivotTop10Filter** (section 3.1.4.4)

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- **ConnectAndGetPivotFilterItemList** (section 3.1.4.9)
- **GetPivotFilterItemList** (section 3.1.4.18)
- **GetPivotMenu** (section 3.1.4.19)
- **RemovePivotFilter** (section 3.1.4.37)
- **TogglePivotDrill** (section 3.1.4.46)

Some of the elements of this type have a common use with all these operations and are specified here. Other elements have specific use 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", the following apply:

- 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", the following apply:

- 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, which 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".

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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 2.2.41 , 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 **ApplyPivotFilter**, which specifies a different behavior.

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

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

FilterType: The type of filter used in the operation. MUST have the value "Invalid", except when used in the following operations, which 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, which 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 2.2.41, set to "true", except when used in the **TogglePivotDrill** operation, which 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 2.2.41) set to "true", except when used in **TogglePivotDrill**, which specifies a different behavior.

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

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

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

2.2.4.29 PresenceUserId

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

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.

2.2.4.30 PresenceUserInfo

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

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 section 2.2.4.29. 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.

2.2.4.31 RangeValuesA1

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

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

```
<xs:complexType name="RangeValuesA1">
  <xs:sequence>
```


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```
    <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>
```

RangeName: The name of the range, as specified in section 2.2.5.18. 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 more 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.

2.2.4.32 RequestLimits

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

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 section 2.2.4.44.

2.2.4.33 ServerHealthInformation

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 zero. MUST be present.

StateFlags: The state of the protocol server. MUST be present. MUST contain zero or more values from **ServerStateFlags** (section 2.2.5.19).

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2.2.4.34 ServerHealthInformation

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

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 zero or more values from **ServerStateFlags** (section 2.2.5.20).

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 zero.

2.2.4.35 SheetRange

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

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 -1 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 1,048,575.

FirstColumn: The zero-based index of the first column (2) of the range. MUST be greater than or equal to -1 and less than or equal to 16,383.

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 16,383.

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2.2.4.36 SlicerFontType

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

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 values described in the following table.

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 zero.

FontColor: **Font face color**. The value MUST be a **LongRGBA,** as specified in [MS-XLSB] section 2.5.96.

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

2.2.4.37 SlicerFormatElement

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

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"/>
```


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```
      <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 2.5.96. 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 2.5.96. 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. The value MUST be a **LongRGBA**, as specified in [MS-XLSB] section 2.5.96.

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

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.

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Value	Name	Meaning
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

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

Contains an **ArrayOfSlicerFormatElement** element (section 2.2.4.9).

```
<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 (section 2.2.4.37).

2.2.4.39 SlicerItem

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

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"/>
```


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```
      <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, the value MUST be "true". MUST be "false" otherwise.

2.2.4.40 SlicerItemList

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

Contains an **ArrayOfSlicerItem** element (section 2.2.4.10).

```
<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 (section 2.2.4.39).

2.2.4.41 SlicerOptions

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

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 2.2.36.

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 2.2.36.

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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 2.2.36.

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 2.2.36.

2.2.4.42 SlicerView

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

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 zero.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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2.2.4.44 VisibleSheetRange

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

The **VisibleSheetRange** complex type is used to specify the **Workbook**, as specified in [MS-EXSPXML] section 2.1.1, 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, the following apply:

- 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) that is used.
    - Otherwise, the protocol server locates a published item by matching **ObjectName** to the name of the published item.
      - If a match is found, the sheet (2) that contains the matching published item MUST be used.
      - Otherwise, the protocol server MUST return an **ExcelServerMessage,** as specified in section 2.2.4.24. The **Id** element of the **ExcelServerMessage** MUST be "EcsInvalidNamedObject".
  - The protocol server locates a published range that 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) that exactly matches **ExcelRange**.
      - If a match was found, the published item is the **baseline range**.
      - Otherwise, the protocol server MUST return an **ExcelServerMessage**, as specified in section 2.2.4.24. The **Id** element of the **ExcelServerMessage** MUST be "EcsInvalidNamedObject"**.**
- If **ExcelRange** is not present or is empty, the protocol server locates **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 2.2.4.24. 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:

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- 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) that contains the first published item MUST be used.
  - The protocol server locates a published range that 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 locates a published item on the **baseline range**'s sheet (2) that exactly matches **ExcelRange**.
      - 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 2.2.4.24. 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 one of the following:

- The first visible row (2) at or after the first row (2) of **baseline range+VisibleFirstRowOffset**, if **VisibleFirstRowOffset** is greater than or equal to zero.

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- The first visible row (2) at or before the first row (2) of **baseline range+VisibleFirstRowOffset**, if **VisibleFirstRowOffset** is less than zero.

  - If **baseline range+VisibleFirstRowOffset** is less than zero, the protocol server MUST return an **ExcelServerMessage**, as specified in section 2.2.4.24. 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) is 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 zero, 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 the first column of **baseline range+VisibleFirstColumnOffset**, if **VisibleFirstColumnOffset** is greater than or equal to zero.

- The first visible column at or before the first column of **baseline range+VisibleFirstColumnOffset**, if **VisibleFirstColumnOffset** is less than zero.

  - If **baseline range+VisibleFirstColumnOffset** is less than zero, the protocol server MUST return an **ExcelServerMessage**, as specified in the section 2.2.4.24. 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 is 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 zero and less than or equal to 16,383.

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 covered by a published chart, and either **ObjectName** is present and not empty, or **ObjectName** is not present or is empty, and the workbook contains published items, the returned **Workbook** ([MS-EXSPXML] section 2.1.1) contains the **CT_Images** element ([MS-EXSPXML] section 2.2.34) with a single **CT_Image** element ([MS-EXSPXML] section 2.2.33). The **type** attribute for the **CT_Image** element ([MS-EXSPXML] section 2.2.33) MUST be **chart**, as specified in [MS-EXSPXML] section 2.2.33.

```
<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"/>
```


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```
    <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, the protocol server MUST return an **ExcelServerMessage**, as specified in section 2.2.4.24. 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, the protocol server MUST return an **ExcelServerMessage,** as specified in section 2.2.4.24, 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 1,048,575.

VisibleRowsRequested: The amount of visible rows (2) to retrieve in the range. MUST be greater than zero and less than or equal to 1,048,575.

FirstColumn: The zero-based index of the first column. MUST be greater than or equal to -1 and less than or equal to 16,383.

VisibleColumnsRequested: The amount of visible columns to retrieve in the range. MUST be greater than zero and less than or equal to 16,383.

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 1,048,575.

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 16,383.

NoAutoAdjustToPublishedUsedRange: MUST be ignored by the protocol server.

CalculateVisibleOffsetFromOrigin: Specifies whether the protocol server returns 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", the returned **Workbook** ([MS-EXSPXML] section 2.1.1) contains the **CurrentFirstRowVisibleOffset** and **CurrentFirstColumnVisibleOffset** attributes in the **CT_Table** element ([MS-EXSPXML] section 2.2.35).

NeedAllBorderValues: Specifies whether the protocol server returns information about all of the borders of a cell. 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 of a cell, as specified in the **ST_enmBorderPosition** enumeration in [MS-EXSPXML] section 2.3.20.

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ChartsOnly: Specifies whether the protocol server returns 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

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

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	A **GUID** value as specified in [RFC4122].
ExcelServerMessageAppearance	The control buttons associated with an alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageId	An enumeration of alerts (2) returned from the protocol server.
ExcelServerMessageSeverity	The severity of the alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageType	The type of the alert (2) that the protocol server returns to the protocol client.
ServerStateFlags	The state of the protocol server.
AutoFilterCriteriaType	Specifies how data is to be filtered by the protocol server when using the **AutoFilterOptions** complex type (section 2.2.4.14).
CellError	An enumeration of a set of **cell error values** that a worksheet cell can contain.

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Simple type	Description
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** (section 2.2.4.13).
ExcelServerMessageAppearance	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	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	The severity of the alert (2) that the protocol server returns to the protocol client.
ExcelServerMessageType	The type of the alert (2) that the protocol server returns to the protocol client.
NamedObjectType	The type of a published item.
AutoFilterOperationType	Used to instruct the protocol server which comparison method to use when filtering worksheets or tables.
PivotFilterType	An enumeration of types of PivotTable filters that can be applied on a **PivotTable field**.
RangeReference	A **string** that 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 (section 2.2.4.12) contained in an **ArrayOfAutoFilterCriteria** (section 2.2.4.2) and the one that potentially follows it.
ServerStateFlags	An enumeration specifying the state of the protocol server.
SessionIdentifier	A **string** used to uniquely identify a session (2) on the protocol server, and to contain information about the session (2).
WorkbookType	An enumeration that is used to specify the form of the requested workbook.

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
AutoFilterCriteriaType	Specifies how data is to be filtered by the protocol server when using the **AutoFilterOptions** complex type (section 2.2.4.14). Each enumeration value falls under one of three categories shown in the table in section 2.2.5.1.1. The category that MUST be used is determined by the **CT_item** element, as specified in [MS-EXSPXML] section 2.2.18.
AutoFilterDateNodeType	Specifies how AutoFilter dates data is filtered by the protocol server when using the **AutoFilterDateNodeInfo** (section 2.2.4.13).

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Simple Type	Description
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 (section 2.2.4.12).
AutoFilterRelationOperator	Specifies the relationship between an **AutoFilterCriteria** element (section 2.2.4.12) contained in an **ArrayOfAutoFilterCriteria** (section 2.2.4.2) and the one that potentially follows it.
CellError	The **CellError** type is an enumeration of a set of cell error values that a worksheet cell can contain. The **CellError** type MUST be used only in a **cellValues** element of **GetRangeValuesResponse** (section 3.1.4.23.2.2) and in a **cellValues** element of **GetRangeValuesA1Response** (section 3.1.4.24.2.2).
CommandParameterFlags	Specifies various options to modify the behavior of operations.
ExcelServerMessageAppearance	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 both values "Yes" and "No".
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 the following: ▪ "OK" ▪ "Notification" ▪ Both "Yes" and "No" ▪ Both "Notification" and "OK"
ExcelServerMessageId	The **ExcelServerMessageId** type is an enumeration of alerts (2) returned from the protocol server.
ExcelServerMessageId	The **2.2.5.9** 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.
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.
ExcelServerMessageType	Specifies the type of the alert (2) that the protocol server returns to the protocol client.
guid	Specifies a GUID value, as specified in [RFC4122].
NamedObjectType	Specifies the type of a published item.
PivotFilterType	The **PivotFilterType** is an enumeration of types of PivotTable filters that can be applied on a PivotTable field. The following types of

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Simple Type	Description
	PivotTable filters are supported: ▪ **Top N filter** or **bottom N filter** ▪ PivotTable **custom label filter** ▪ PivotTable **custom value filter**
RangeReference	A string that 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 32,768 characters. MAY<4> use any format to identify the range.
ServerStateFlags	Specifies the state of the protocol server.
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). 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 period (.). ▪ **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 period (.). ▪ **Part 4:** A unique string. MUST be greater than or equal to 20 and less than or equal to 32,647 characters long. ▪ **Part 5:** The sum of number of characters in parts 6-11, followed by a period (.). ▪ **Part 6:** The number of characters in part 7, followed by a period (.). ▪ **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 period (.). ▪ **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 period (.). ▪ **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 period (.). ▪ **Part 13:** MUST be equal to the value of **RequestSiteId** passed in **parameter**, in the **OpenWorkbook** operation.

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Simple Type	Description
	▪ **Part 14:** The number of characters in part 15, followed by a period (.). ▪ **Part 15:** If the identified session (2) is a **new workbook session**, MUST be "U". Otherwise, if the identified session (2) is not an edit session, 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.
WorkbookType	The **WorkbookType** simple type is an enumeration that is used to specify the form of the requested workbook.

2.2.5.1 AutoFilterCriteriaType

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

Specifies how data is to be filtered by the protocol server when using the **AutoFilterOptions** complex type (section 2.2.4.14).

Each enumeration value falls under one of three categories shown in the table in section 2.2.5.1.1. The category that MUST be used is determined by the **CT_item** element, as specified in [MS-EXSPXML] section 2.2.18.

```
<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:enumeration value="M1"/>
    <xs:enumeration value="M2"/>
    <xs:enumeration value="M3"/>
    <xs:enumeration value="M4"/>
    <xs:enumeration value="M5"/>
```


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```
      <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.
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.

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Value	Meaning
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.

2.2.5.1.1 AutoFilterCriteriaType Enumeration

The following table enumerates the values of the AutoFilterCriteriaType as specified in section 2.2.5.1. 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 **DataType** 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 **DataType** attribute of the **CT_item** element, as specified in [MS-EXSPXML] section 2.2.18, containing the string "Date".

2.2.5.2 AutoFilterDateNodeType

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

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Specifies how AutoFilter dates data is filtered by the protocol server when using the **AutoFilterDateNodeInfo** (section 2.2.4.13).

```
<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.

2.2.5.3 AutoFilterOperationType

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

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 (section 2.2.4.12).

```
<xs:simpleType name="AutoFilterOperationType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="EQ"/>
    <xs:enumeration value="NEQ"/>
    <xs:enumeration value="GT"/>
```


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```
      <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.

2.2.5.4 AutoFilterRelationOperator

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

Specifies the relationship between an **AutoFilterCriteria** element (section 2.2.4.12) contained in an **ArrayOfAutoFilterCriteria** (section 2.2.4.2) 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 **AutoFilterCriteria** section.
And	See the **Relation** element in the **AutoFilterCriteria** section. The protocol server will satisfy the conditions specified both in the **AutoFilterCriteria** that contains this value and in the one coming after it in the **ArrayOfAutoFilterCriteria**.
Or	See the **Relation** element in the **AutoFilterCriteria** section. The protocol server will satisfy the conditions specified in the **AutoFilterCriteria** that contains this value or in the one coming after it in the **ArrayOfAutoFilterCriteria**.

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Value	Meaning
LastCount	MUST NOT be used.

2.2.5.5 CellError

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

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

The **CellError** type MUST be used only in a **cellValues** element of **GetRangeValuesResponse** (section 3.1.4.23.2.2) and in a **cellValues** element of **GetRangeValuesA1Response** (section 3.1.4.24.2.2).

```
<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 zero.
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.

2.2.5.6 CommandParameterFlags

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

Specifies various options to modify the behavior of operations.

```
<xs:simpleType name="CommandParameterFlags">
  <xs:list>
    <xs:simpleType>
```


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

2.2.5.7 ExcelServerMessageAppearance

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 both 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.

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2.2.5.8 ExcelServerMessageAppearance

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

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 the following:

- "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.

2.2.5.9 ExcelServerMessageId

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"/>
```


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```
<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:enumeration value="SiteCollectionMemoryQuotaExceeded"/>
<xs:enumeration value="SessionMemoryQuotaExceeded"/>
<xs:enumeration value="SiteCollectionChartQuotaExceeded"/>
```


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```
<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"/>
```


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```
<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"/>
```


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```
<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="NoUnsupportedFeatureCopyAndEdit"/>
<xs:enumeration value="InsertChartPivotTable"/>
<xs:enumeration value="EditChartTitleTooLong"/>
<xs:enumeration value="EditChartTitleStartsWithEquals"/>
<xs:enumeration value="EditChartDataTooLong"/>
<xs:enumeration value="EditChartDataInvalidReference"/>
<xs:enumeration value="EditChartDataOverlapsPivotTable"/>
<xs:enumeration value="ChartOperationNotSupported"/>
<xs:enumeration value="EditChartDataPivotChart"/>
<xs:enumeration value="ChangeChartTypePivotScatter"/>
<xs:enumeration value="ChartTooManyDataSeries"/>
<xs:enumeration value="OdfCompatibilityWarning"/>
<xs:enumeration value="ODFUnsupportedEncryption"/>
<xs:enumeration value="ODFUnreadableContentGeneric"/>
<xs:enumeration value="Ewr_ODFUnreadableContentGeneric"/>
<xs:enumeration value="NoLicenseError"/>
```


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```
      <xs:enumeration value="Count"/>
    </xs:restriction>
  </xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageId:

Value	Meaning
Blank	MUST NOT be used.
InternalError	An unexpected error occurred in the protocol server.
NotMemberOfRole	The user does not have **permissions** to complete the operation.
EncryptionTooLow	The protocol server is configured to accept only HTTPS, and the protocol client has tried to connect with a non HTTPS.
ConfirmDataRefresh	A connected data refresh confirmation is requested by the protocol client before connected data refresh on a workbook.
ExternalDataRefreshFailed	Connected data refresh failed.
ExternalDataRefreshFailedReal	Connected data refresh failed.
ExternalDataRefreshFailedReadOrViewOnly	Connected data refresh failed.
NoAccessToOdcReadOrViewOnly	Connected data refresh failed.
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.

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Value	Meaning
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.
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

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Value	Meaning
	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.
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.

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Value	Meaning
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.
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.

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Value	Meaning
WorkbookLockedRead	An attempt to open a workbook failed because a file lock prevents it from being read.
EditModeCannotEditNonSharePointWorkbook	An attempt to open an edit session failed because the file is not in a **document library**.
EditModeAccessDenied	An attempt to open a workbook in an edit session failed because the user does not have sufficient permissions to edit the workbook file.
GenericFileOpenError	An unspecified error occurred when opening the workbook file.
IRMedWorkbook	An attempt to open a workbook failed because the workbook is in an **Information Rights Management (IRM)** document library.
ParameterInvalid	An attempt to open a workbook failed because the workbook contains one or more **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.
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).

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Value	Meaning
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.
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.

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Value	Meaning
Ewr_LoadProgress	MUST NOT be used.
Ewr_FileCorrupt	MUST NOT be used.
Ewr_WorkbookNotSupported	MUST NOT be used.
Ewr_GenericFileOpenError	MUST NOT be used.
Ewr_InvalidParameterGeneric	MUST NOT be used.
Ewr_InvalidParameterMandatoryMissing	MUST NOT be used.
Ewr_InvalidParameterUnexpectedFormat	MUST NOT be used.
Ewr_InvalidParameterOutOfRange	MUST NOT be used.
Ewr_InvalidParameterOperationNotAllowed	MUST NOT be used.
Ewr_ParameterInvalid	MUST NOT be used.
Ewr_ParameterLimitExceeded	MUST NOT be used.
Ewr_ParameterDoesNotExist	MUST NOT be used.
Ewr_SetParameterFailure	MUST NOT be used.
Ewr_SetParameterFailureOnOpen	MUST NOT be used.
Ewr_ParameterReadFromDocPropsError	MUST NOT be used.
Ewr_FormulaEditingNotEnabled	MUST NOT be used.
Ewr_InvalidVisibleItem	MUST NOT be used.
Ewr_EditSaveAsOverCurrentWorkbook	MUST NOT be used.
Ewr_RequestTimedOut	MUST NOT be used.
Ewr_ServerCommunicationError	MUST NOT be used.
Ewr_ServerAuthenticationError	MUST NOT be used.
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.

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Value	Meaning
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 protocol server is low on **system resources**.
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.

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Value	Meaning
ListEntryNotFound_1	MUST NOT be used.
ListEntryNotFound_2	MUST NOT be used.
ListEntryAlreadyExists_1	MUST NOT be used.
ListEntryAlreadyExists_2	MUST NOT be used.
InvalidArgumentValue	MUST NOT be used.
MissingArgumentName	MUST NOT be used.
InvalidArgumentName	MUST NOT be used.
ArgumentBadInRemove	MUST NOT be used.
ManagementUIListEntryAlreadyExists	MUST NOT be used.
ManagementUIListEntryNotFound	MUST NOT be used.
ManagementUIInternalError	MUST NOT be used.
UnsupportedUICulture	The UI culture is not supported by the protocol server.
UnsupportedDataCulture	The data culture is not supported by the protocol server.
SpecifiedItemNotFound	An attempt to set a range of cells in a workbook failed because the user does not have Open Item permission.
EcsSnapshotAccessDenied	The protocol server cannot return the workbook or a **snapshot**, because the user does not have Open Item permission.
SaveFailed	A save operation failed.
WrongEcs	An attempt was made to access an edit session that is owned by another instance of a protocol server in the **farm**.
PasteDataLimitHit	The string exceeds the maximum permitted length.
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.

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Value	Meaning
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.
NoUnsupportedFeatureCopyAndEdit	MUST NOT be used.
InsertChartPivotTable	The specified **chart data table** overlaps a PivotTable.
EditChartTitleTooLong	MUST NOT be used.
EditChartTitleStartsWithEquals	MUST NOT be used.
EditChartDataTooLong	MUST NOT be used.
EditChartDataInvalidReference	The string does not correspond to a valid range of cells.
EditChartDataOverlapsPivotTable	The specified chart data table overlaps a PivotTable.
ChartOperationNotSupported	The operation is not valid for the specified chart.
EditChartDataPivotChart	The chart data table cannot be changed for chart based on a PivotTable.
ChangeChartTypePivotScatter	A chart based on a PivotTable cannot be changed to a **scatter chart**.
ChartTooManyDataSeries	The chart data table specified exceeds the allowed limits.
OdfCompatibilityWarning	MUST NOT be used.
ODFUnsupportedEncryption	The protocol server failed to create a session (2) for the specified workbook file, which is in a format specified by [ODF], because it is an **encrypted document**.
ODFUnreadableContentGeneric	The protocol server failed to create a session (2) for the specified workbook file, which is in a format specified by [ODF], because it contains unsupported content.
Ewr_ODFUnreadableContentGeneric	MUST NOT be used.

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Value	Meaning
NoLicenseError	MUST NOT be used.
Count	MUST NOT be used.

2.2.5.10 ExcelServerMessageId

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

The **2.2.5.9** 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.

```
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    <xs:enumeration value="InternalError"/>
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    <xs:enumeration value="EncryptionTooLow"/>
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    <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"/>
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    <xs:enumeration value="SsoError"/>
    <xs:enumeration value="ErrorConnectingToDataSource"/>
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    <xs:enumeration value="CDimMismatch"/>
    <xs:enumeration value="DataSetAxisTooBig"/>
    <xs:enumeration value="CubeIntegrityError"/>
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    <xs:enumeration value="PivotTruncatedSheetEdge"/>
    <xs:enumeration value="DdlGrpNotSup"/>
    <xs:enumeration value="PivotFormulasCollided"/>
    <xs:enumeration value="NoRetItems"/>
    <xs:enumeration value="OlapConnectVisualModeProvider"/>
```


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```
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<xs:enumeration value="PivotFilteringError"/>
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<xs:enumeration value="EditModeWorkbookCheckedOutToLocalDrafts"/>
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<xs:enumeration value="ParameterLimitExceeded"/>
<xs:enumeration value="WorkbookInternalLimit"/>
<xs:enumeration value="OldFormatConversionFailed"/>
<xs:enumeration value="EditModeWorkbookExternalData"/>
```


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```
<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"/>
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<xs:enumeration value="InsDelCellsArrayFmla"/>
<xs:enumeration value="InsDelCellsPivotTable"/>
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<xs:enumeration value="Mewa_GridViewRenderingFailed"/>
<xs:enumeration value="Mewa_FeatureNotActive"/>
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```


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```
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<xs:enumeration value="ScratchPadChangesLost"/>
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<xs:enumeration value="StopOpenOnRefreshFailure"/>
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<xs:enumeration value="OperationFailed"/>
<xs:enumeration value="OpenInExcelActiveXError"/>
<xs:enumeration value="ProcessingUserChangesFileDownloadIgnored"/>
```


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```
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      <xs:enumeration value="NoUnsupportedFeatureCopyAndEdit"/>
      <xs:enumeration value="InsertChartPivotTable"/>
      <xs:enumeration value="EditChartTitleTooLong"/>
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      <xs:enumeration value="OdfCompatibilityWarning"/>
      <xs:enumeration value="ODFUnsupportedEncryption"/>
      <xs:enumeration value="ODFUnreadableContentGeneric"/>
      <xs:enumeration value="Ewr_ODFUnreadableContentGeneric"/>
      <xs:enumeration value="NoLicenseError"/>
      <xs:enumeration value="Count"/>
    </xs:restriction>
  </xs:simpleType>
```

The following table specifies the allowable values for ExcelServerMessageId:

Value	Meaning
Blank	For details, see section 2.2.5.9.
InternalError	For details, see section 2.2.5.9.
NotMemberOfRole	For details, see section 2.2.5.9.
EncryptionTooLow	For details, see section 2.2.5.9.
ConfirmDataRefresh	For details, see section 2.2.5.9.
ExternalDataRefreshFailed	For details, see section 2.2.5.9.
ExternalDataRefreshFailedReal	For details, see section 2.2.5.9.
ExternalDataRefreshFailedReadOrViewOnly	For details, see section 2.2.5.9.
NoAccessToOdcReadOrViewOnly	For details, see section 2.2.5.9.
ErrorConnectingToDataSourceReadOrViewOnly	For details, see section 2.2.5.9.
InvalidUserNameOrPasswordReadOrViewOnly	For details, see section 2.2.5.9.
InvalidUserNameOrPassword	For details, see section 2.2.5.9.
ExternalDataNotAllowedOnTL	For details, see section 2.2.5.9.
InvalidUriorLocalConnectionPath	For details, see section 2.2.5.9.
DclNotTrusted	For details, see section 2.2.5.9.
OdcFileDoesNotExist	For details, see section 2.2.5.9.
ErrorAccessingSsoFromEcs	For details, see section 2.2.5.9.

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Value	Meaning
SsoError	For details, see section 2.2.5.9.
ErrorConnectingToDataSource	For details, see section 2.2.5.9.
UnattendedAccountNotConfigured	For details, see section 2.2.5.9.
IncorrectAuthUsed	For details, see section 2.2.5.9.
ExternalDataRefreshFailed_Details	For details, see section 2.2.5.9.
PivotNoOverlapAllowed	For details, see section 2.2.5.9.
PivotOverlapList	For details, see section 2.2.5.9.
PivotCubeNotUnique	For details, see section 2.2.5.9.
NoDataItemsOlap	For details, see section 2.2.5.9.
OlapSchemaFail	For details, see section 2.2.5.9.
InvalidPivot	For details, see section 2.2.5.9.
OlapNoMoreDetail	For details, see section 2.2.5.9.
DrillActionInvalid	For details, see section 2.2.5.9.
DriverNotOlap	For details, see section 2.2.5.9.
CubeMissing	For details, see section 2.2.5.9.
SkipLine	For details, see section 2.2.5.9.
CDimMismatch	For details, see section 2.2.5.9.
DataSetAxisTooBig	For details, see section 2.2.5.9.
CubeIntegrityError	For details, see section 2.2.5.9.
PivotNotExpandedtoProtectCellContents	For details, see section 2.2.5.9.
PivotTruncatedSheetEdge	For details, see section 2.2.5.9.
DdlGrpNotSup	For details, see section 2.2.5.9.
PivotFormulasCollided	For details, see section 2.2.5.9.
NoRetItems	For details, see section 2.2.5.9.
OlapConnectVisualModeProvider	For details, see section 2.2.5.9.
PivotNoSourceData	For details, see section 2.2.5.9.
PivotFilteringError	For details, see section 2.2.5.9.
PivotTableIncorrectDateFormat	For details, see section 2.2.5.9.
PivotTableEndingLargerThanStarting	For details, see section 2.2.5.9.
PivotTableIncorrectNumberFormat	For details, see section 2.2.5.9.

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Value	Meaning
PivotTableOutOfRange	For details, see section 2.2.5.9.
MergedCellOverlap	For details, see section 2.2.5.9.
PivotSourceNotAvailable	For details, see section 2.2.5.9.
UnexpectedPivotError	For details, see section 2.2.5.9.
EditModeCannotAcquireLockUnknownReason	For details, see section 2.2.5.9.
EditModeCannotAcquireLock	For details, see section 2.2.5.9.
EditModeCannotAcquireLockUnknownUser	For details, see section 2.2.5.9.
EditModeWorkbookCheckedOutRequired	For details, see section 2.2.5.9.
EditModeWorkbookCheckedOutToLocalDrafts	For details, see section 2.2.5.9.
SiteTooBusy	For details, see section 2.2.5.9.
SiteCollectionMemoryQuotaExceeded	For details, see section 2.2.5.9.
SessionMemoryQuotaExceeded	For details, see section 2.2.5.9.
SiteCollectionChartQuotaExceeded	For details, see section 2.2.5.9.
RequestLimitsExceeded	For details, see section 2.2.5.9.
SavingUnsupportedInViewMode	For details, see section 2.2.5.9.
SavingWorkbookNoWorkbookName	For details, see section 2.2.5.9.
FileSaveGeneric	For details, see section 2.2.5.9.
SavingWorkbookInvalidPermissions	For details, see section 2.2.5.9.
SavingWorkbookLockedOrCheckedOut	For details, see section 2.2.5.9.
SavingWorkbookNotCheckedOut	For details, see section 2.2.5.9.
SavingWorkbookAccessDenied	For details, see section 2.2.5.9.
SavingWorkbookInvalidFileType	For details, see section 2.2.5.9.
SavingWorkbookFileNameExists	For details, see section 2.2.5.9.
HostedSavingWorkbookFileNameExists	For details, see section 2.2.5.9.
HostedSavingWorkbookInvalidFileName	For details, see section 2.2.5.9.
SavingWorkbookNotTrustedLocation	For details, see section 2.2.5.9.
SavingWorkbookInvalidLocation	For details, see section 2.2.5.9.
SavingWorkbookInvalidFileName	For details, see section 2.2.5.9.
SavingWorkbookTrustedLocationSettingWarning	For details, see section 2.2.5.9.
SavingWorkbookAlmostTooLarge	A notification that the workbook is close to the

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Value	Meaning
	maximum allowed file size.
SavingWorkbookTooLarge	A notification that the workbook exceeds the maximum allowed file size.
NewWorkbookInvalidLocation	For details, see section 2.2.5.9.
FileOpenSecuritySettings	For details, see section 2.2.5.9.
FileOpenNotFound	For details, see section 2.2.5.9.
FileOpenAccessDenied	For details, see section 2.2.5.9.
FileCorrupt	For details, see section 2.2.5.9.
OpenWorkbookTooLarge	For details, see section 2.2.5.9.
OpenWorkbookLocationNotTrusted	For details, see section 2.2.5.9.
OpenWorkbookAccessDenied	For details, see section 2.2.5.9.
WorkbookNotSupported	For details, see section 2.2.5.9.
WorkbookNotSupportedViewRight	For details, see section 2.2.5.9.
UnsupportedFeatureViewWarning	The specified workbook contains unsupported content, but this did not prevent the protocol server from creating a session (2).
UnsupportedFeatureSaveCopyWarning	For details, see section 2.2.5.9.
ExternalWorkbookLinksDisabled	A notification that the workbook contains links to external workbooks. The links are disabled, but this does not prevent the workbook from loading.
WorkbookLockedRead	For details, see section 2.2.5.9.
EditModeCannotEditNonSharePointWorkbook	For details, see section 2.2.5.9.
EditModeAccessDenied	For details, see section 2.2.5.9.
GenericFileOpenError	For details, see section 2.2.5.9.
IRMedWorkbook	For details, see section 2.2.5.9.
ParameterInvalid	For details, see section 2.2.5.9.
ParameterLimitExceeded	For details, see section 2.2.5.9.
WorkbookInternalLimit	For details, see section 2.2.5.9.
OldFormatConversionFailed	For details, see section 2.2.5.9.
EditModeWorkbookExternalData	For details, see section 2.2.5.9.
FormulaEditingNotEnabled	For details, see section 2.2.5.9.
DimensionMismatch	For details, see section 2.2.5.9.
SetRangeFailure	For details, see section 2.2.5.9.

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Value	Meaning
ObjectTypeNotSupported	For details, see section 2.2.5.9.
ParameterDoesNotExist	For details, see section 2.2.5.9.
FormulaParseFailed	For details, see section 2.2.5.9.
SetParameterFailure	For details, see section 2.2.5.9.
CannotEditPivotTable	For details, see section 2.2.5.9.
InsDelCellsNonblankCells	For details, see section 2.2.5.9.
InsDelCellsArrayFmla	For details, see section 2.2.5.9.
InsDelCellsPivotTable	For details, see section 2.2.5.9.
InsDelCellsTable	For details, see section 2.2.5.9.
InsDelCellsMergedCells	For details, see section 2.2.5.9.
InsDelCellsDatatable	For details, see section 2.2.5.9.
InsDelCellsRowsForWholeColumn	For details, see section 2.2.5.9.
InsDelCellsColumnsForWholeRow	For details, see section 2.2.5.9.
InvalidSheetName	For details, see section 2.2.5.9.
RangeParseError	For details, see section 2.2.5.9.
SpecifiedRangeNotFound	For details, see section 2.2.5.9.
RangeDefinitionError	For details, see section 2.2.5.9.
DiscontiguousRangeNotSupported	For details, see section 2.2.5.9.
RangeRequestAreaExceeded	For details, see section 2.2.5.9.
SheetRangeMismatch	For details, see section 2.2.5.9.
ImageGenFailed	For details, see section 2.2.5.9.
ApiInvalidArgument	For details, see section 2.2.5.9.
ApiInvalidCoordinate	For details, see section 2.2.5.9.
ConfirmationUnsupported	For details, see section 2.2.5.9.
ApiInvalidDimensionReturned	For details, see section 2.2.5.9.
ApiMissingSiteContext	For details, see section 2.2.5.9.
Ewr_IllegalPageSize	For details, see section 2.2.5.9.
Ewr_WorkbookNotSpecified	For details, see section 2.2.5.9.
Ewr_LoadProgress	For details, see section 2.2.5.9.
Ewr_FileCorrupt	For details, see section 2.2.5.9.

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Value	Meaning
Ewr_WorkbookNotSupported	For details, see section 2.2.5.9.
Ewr_GenericFileOpenError	For details, see section 2.2.5.9.
Ewr_InvalidParameterGeneric	For details, see section 2.2.5.9.
Ewr_InvalidParameterMandatoryMissing	For details, see section 2.2.5.9.
Ewr_InvalidParameterUnexpectedFormat	For details, see section 2.2.5.9.
Ewr_InvalidParameterOutOfRange	For details, see section 2.2.5.9.
Ewr_InvalidParameterOperationNotAllowed	For details, see section 2.2.5.9.
Ewr_ParameterInvalid	For details, see section 2.2.5.9.
Ewr_ParameterLimitExceeded	For details, see section 2.2.5.9.
Ewr_ParameterDoesNotExist	For details, see section 2.2.5.9.
Ewr_SetParameterFailure	For details, see section 2.2.5.9.
Ewr_SetParameterFailureOnOpen	For details, see section 2.2.5.9.
Ewr_ParameterReadFromDocPropsError	For details, see section 2.2.5.9.
Ewr_FormulaEditingNotEnabled	For details, see section 2.2.5.9.
Ewr_InvalidVisibleItem	For details, see section 2.2.5.9.
Ewr_EditSaveAsOverCurrentWorkbook	For details, see section 2.2.5.9.
Ewr_RequestTimedOut	For details, see section 2.2.5.9.
Ewr_ServerCommunicationError	For details, see section 2.2.5.9.
Ewr_ServerAuthenticationError	For details, see section 2.2.5.9.
Ewr_Top10InvalidValue	For details, see section 2.2.5.9.
Ewr_Top10InvalidValue_Float	For details, see section 2.2.5.9.
Mewa_PageStateInitFailed	For details, see section 2.2.5.9.
Mewa_CriticalParameterMissing	For details, see section 2.2.5.9.
Mewa_GridViewRenderingFailed	For details, see section 2.2.5.9.
Mewa_FeatureNotActive	For details, see section 2.2.5.9.
OperationNotSupportedInViewOnly	For details, see section 2.2.5.9.
OperationOnInvalidState	For details, see section 2.2.5.9.
InvalidOrTimedOutSession	For details, see section 2.2.5.9.
InvalidOrTimedOutSessionPageRefresh	For details, see section 2.2.5.9.
ScratchPadChangesLost	For details, see section 2.2.5.9.

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Value	Meaning
MaxSessionsPerUserExceeded	For details, see section 2.2.5.9.
OperationCanceled	For details, see section 2.2.5.9.
MaxRequestDurationExceeded	For details, see section 2.2.5.9.
NoOccurrencesFound	For details, see section 2.2.5.9.
EcsInvalidNamedObject	For details, see section 2.2.5.9.
NoPublishedItems	For details, see section 2.2.5.9.
RetryError	For details, see section 2.2.5.9.
StopOpenOnRefreshFailure	For details, see section 2.2.5.9.
ProductExpired	For details, see section 2.2.5.9.
SortActionInvalid	For details, see section 2.2.5.9.
SortActionNotSupportedWithPivot	For details, see section 2.2.5.9.
CircularReferencesFound	For details, see section 2.2.5.9.
SessionNotFound	For details, see section 2.2.5.9.
NewWorkbookSessionTimeout	For details, see section 2.2.5.9.
EditXLSFile	For details, see section 2.2.5.9.
UnsupportedFeatureEditWarning	For details, see section 2.2.5.9.
EditModeSessionExists	For details, see section 2.2.5.9.
NewerWorkbookExists	For details, see section 2.2.5.9.
ExternalDataOfficeLive	For details, see section 2.2.5.9.
LostAuthentication	For details, see section 2.2.5.9.
ListEntryNotFound_1	For details, see section 2.2.5.9.
ListEntryNotFound_2	For details, see section 2.2.5.9.
ListEntryAlreadyExists_1	For details, see section 2.2.5.9.
ListEntryAlreadyExists_2	For details, see section 2.2.5.9.
InvalidArgumentValue	For details, see section 2.2.5.9.
MissingArgumentName	For details, see section 2.2.5.9.
InvalidArgumentName	For details, see section 2.2.5.9.
ArgumentBadInRemove	For details, see section 2.2.5.9.
ManagementUIListEntryAlreadyExists	For details, see section 2.2.5.9.
ManagementUIListEntryNotFound	For details, see section 2.2.5.9.

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Value	Meaning
ManagementUIInternalError	For details, see section 2.2.5.9.
UnsupportedUICulture	For details, see section 2.2.5.9.
UnsupportedDataCulture	For details, see section 2.2.5.9.
SpecifiedItemNotFound	For details, see section 2.2.5.9.
EcsSnapshotAccessDenied	For details, see section 2.2.5.9.
SaveFailed	For details, see section 2.2.5.9.
WrongEcs	For details, see section 2.2.5.9.
PasteDataLimitHit	For details, see section 2.2.5.9.
UndoStackEmpty	For details, see section 2.2.5.9.
RedoStackEmpty	For details, see section 2.2.5.9.
UndoRedoCollabFail	For details, see section 2.2.5.9.
HyperlinkLocationRequired	For details, see section 2.2.5.9.
CollabLocaleMismatch	For details, see section 2.2.5.9.
LocaleRestored	For details, see section 2.2.5.9.
InvalidEditSession	For details, see section 2.2.5.9.
InvalidEditSessionPageRefresh	For details, see section 2.2.5.9.
InvalidEditSessionId	For details, see section 2.2.5.9.
UnableToLoadEditSession	For details, see section 2.2.5.9.
SavingWorkbookFailed	For details, see section 2.2.5.9.
RefreshLockFailed	For details, see section 2.2.5.9.
InvalidChartName	For details, see section 2.2.5.9.
RetryOutOfSync	For details, see section 2.2.5.9.
OperationFailed	For details, see section 2.2.5.9.
OpenInExcelActiveXError	For details, see section 2.2.5.9.
ProcessingUserChangesFileDownloadIgnored	For details, see section 2.2.5.9.
PhoneticDataLossWarning	For details, see section 2.2.5.9.
NoUnsupportedFeatureCopyAndEdit	For details, see section 2.2.5.9.
InsertChartPivotTable	For details, see section 2.2.5.9.
EditChartTitleTooLong	For details, see section 2.2.5.9.
EditChartTitleStartsWithEquals	For details, see section 2.2.5.9.

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Value	Meaning
EditChartDataTooLong	For details, see section 2.2.5.9.
EditChartDataInvalidReference	For details, see section 2.2.5.9.
EditChartDataOverlapsPivotTable	For details, see section 2.2.5.9.
ChartOperationNotSupported	For details, see section 2.2.5.9.
EditChartDataPivotChart	For details, see section 2.2.5.9.
ChangeChartTypePivotScatter	For details, see section 2.2.5.9.
ChartTooManyDataSeries	For details, see section 2.2.5.9.
OdfCompatibilityWarning	For details, see section 2.2.5.9.
ODFUnsupportedEncryption	For details, see section 2.2.5.9.
ODFUnreadableContentGeneric	For details, see section 2.2.5.9.
Ewr_ODFUnreadableContentGeneric	For details, see section 2.2.5.9.
NoLicenseError	For details, see section 2.2.5.9.
Count	For details, see section 2.2.5.9.

2.2.5.11 ExcelServerMessageSeverity

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.

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2.2.5.12 ExcelServerMessageSeverity

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

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.

2.2.5.13 ExcelServerMessageType

Namespace: http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server

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.

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2.2.5.14 ExcelServerMessageType

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

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.

2.2.5.15 guid

Namespace: http://microsoft.com/wsdl/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>
```

2.2.5.16 NamedObjectType

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

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>
```


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```
</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.

2.2.5.17 PivotFilterType

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

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 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"/>
```


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```
      <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: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

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Value	Meaning
	filter is 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.
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

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Value	Meaning
	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 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.

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Value	Meaning
	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.
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

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Value	Meaning
	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 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.

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Value	Meaning
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.

2.2.5.18 RangeReference

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

A string that 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 32,768 characters. MAY<5> use any format to identify the range.

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

2.2.5.19 ServerStateFlags

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:

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

2.2.5.20 ServerStateFlags

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

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

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

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 period (.).
- **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 period (.).
- **Part 4:** A unique string. MUST be greater than or equal to 20 and less than or equal to 32,647 characters long.
- **Part 5:** The sum of number of characters in parts 6-11, followed by a period (.).
- **Part 6:** The number of characters in part 7, followed by a period (.).
- **Part 7:** The UI culture of the session (2). A language tag, as specified in [RFC1766], Section 2.

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- **Part 8:** The number of characters in part 9, followed by a period (.).
- **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 period (.).
- **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 period (.).
- **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 period (.).
- **Part 15:** If the identified session (2) is a new workbook session, MUST be "U".

Otherwise, if the identified session (2) is not an edit session, 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

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

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**.

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2.2.6 Attributes

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

2.2.7 Groups

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

2.2.8 Attribute Groups

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

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3 Protocol Details

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

The client side of this protocol 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.

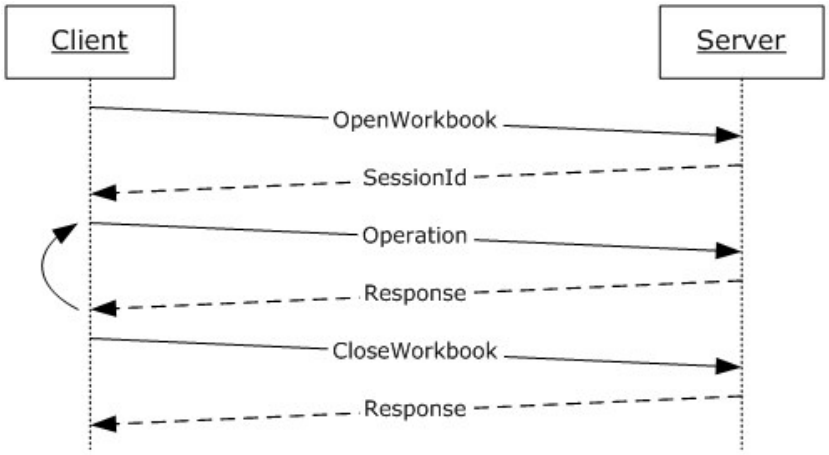

Figure 2: Excel Calculation Web Service Protocol high-level sequence diagram

Session Behavior

View Sessions

A view session is created on a successful **OpenWorkbook** request, as specified in **OpenWorkbook** (section 3.1.4.30). 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

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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.

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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.

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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** (section 3.1.4.13.3.1) 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** (section 3.1.4.9) 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.

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WSDL Operation	Description
Refresh	This operation is used to refresh connected data on a workbook.
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:

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- The protocol server sets 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** (section 2.2.4.14) 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<6> be one of the values specified in section 2.2.2.1.

This operation is a state changing operation on the protocol server.

3.1.4.1.1 Messages

The following **WSDL message** definitions are specific to this operation.

3.1.4.1.1.1 ExcelServiceSoap_ApplyItemFilter_InputMessage

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

The **SOAP action** value is:

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

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

3.1.4.1.1.2 ExcelServiceSoap_ApplyItemFilter_OutputMessage

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

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

3.1.4.1.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.1.2.1 ApplyItemFilter

The input data for the **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>
```


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parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

autoFilterOptions: The AutoFilter options for filtering the AutoFilter column (2) as specified in section 2.2.4.14. 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 zero and less than or equal to 1000. All **string** elements of **ArrayOfString** (section 2.2.4.11) 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** (section 3.1.4.13.3.3) in the **AutoFilterItemList** (section 3.1.4.13.3.1) of the **GetAutoFilterItemList** response (section 3.1.4.13).

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** (section 2.2.4.13). MUST NOT be present if the **values** element is not present. If present the count of elements MUST be greater than or equal to zero 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", the value of the **Month** and **Day** elements of **AutoFilterDateNodeInfo** MUST be zero. If the value of the **NodeType** element of **AutoFilterDateNodeInfo** is "Month", the value of the **Day** element of **AutoFilterDateNodeInfo** MUST be zero.

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.

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 the **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>
```

ApplyItemFilterResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.1.3 Complex Types

None.

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3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 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:

1. 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.
2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<7> be one of the values specified in section 2.2.2.1 or any of the following values.

- "DclNotTrusted"
- "ErrorAccessingSsoFromEcs"
- "ErrorAccessingSsofromWfe"

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- "ErrorConnectingToDataSource"
- "ErrorConnectingToDataSourceReadOrViewOnly"
- "ExternalDataNotAllowedOnTL"
- "ExternalDataRefreshFailed"
- "ExternalDataRefreshFailed_Details"
- "ExternalDataRefreshFailedReadOrViewOnly"
- "ExternalDataRefreshFailedReal"
- "IncorrectAuthUsed"
- "InvalidUriorLocalConnectionPath"
- "InvalidUserNameOrPassword"
- "InvalidUserNameOrPasswordReadOrViewOnly"
- "NoAccessToOdcReadOrViewOnly"
- "OdcFileDoesNotExist"
- "UnattendedAccountNotConfigured"

This operation is a state changing operation on the protocol server.

3.1.4.2.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.2.1.1 ExcelServiceSoap_ApplyPivotFilter_InputMessage

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

The SOAP action value is:

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

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

3.1.4.2.1.2 ExcelServiceSoap_ApplyPivotFilter_OutputMessage

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

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

3.1.4.2.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.2.2.1 ApplyPivotFilter

The input data for the **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 section 2.2.4.20. 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** (section 2.2.4.28):

- **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** (section 2.2.5.17).
- **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** (section 3.1.4.19).
- **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 **PivotField** 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** (section 3.1.4.18). Otherwise, MUST NOT be present.

3.1.4.2.2.2 ApplyPivotFilterResponse

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

```
<xs:element name="ApplyPivotFilterResponse">
  <xs:complexType>
```


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```
    <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 section 2.2.4.21. MUST be present.

3.1.4.2.3 Complex Types

None.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.4.3 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.

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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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<8> be one of the values specified in section 2.2.2.1 or any of the following values:

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

3.1.4.3.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.3.1.1 ExcelServiceSoap_ApplyPivotSort_InputMessage

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

The SOAP action value is:

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

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

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3.1.4.3.1.2 ExcelServiceSoap_ApplyPivotSort_OutputMessage

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

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

3.1.4.3.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.3.2.1 ApplyPivotSort

The input data for the **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 section 2.2.4.20. MUST be present.

pivotOperationOptions: The PivotTable field identification as specified in section 2.2.4.28. 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 the **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 section 2.2.4.21. MUST be present.

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3.1.4.3.3 Complex Types

None.

3.1.4.3.4 Simple Types

None.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 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:

1. 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.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<9> be one of the values specified in section 2.2.2.1 or any of the following values:

- "DclNotTrusted"

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

3.1.4.4.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.4.1.1 ExcelServiceSoap_ApplyPivotTop10Filter_InputMessage

The request WSDL message for the **ApplyPivotTop10Filter** WSDL operation.

The SOAP action value is:

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

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

3.1.4.4.1.2 ExcelServiceSoap_ApplyPivotTop10Filter_OutputMessage

The response WSDL message for the **ApplyPivotTop10Filter** WSDL operation.

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

3.1.4.4.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.4.2.1 ApplyPivotTop10Filter

The input data for the **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>
```

parameter: A **CommandParameter** as specified in section 2.2.4.20. 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 section 2.2.4.28:

- **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** (section 3.1.4.19).
- **FilterType** MUST be one of the following values, as specified in section 2.2.5.17: **FirstTop10**, **Percent**, or **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: The PivotTable filter parameter. If the value of the **FilterType** element of the **pivotOperationOptions** element is "FirstTop10", **value** MUST be greater than or equal to zero 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 zero 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 zero.

3.1.4.4.2.2 ApplyPivotTop10FilterResponse

The result data for the **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 section 2.2.4.21. MUST be present.

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3.1.4.4.3 Complex Types

None.

3.1.4.4.4 Simple Types

None.

3.1.4.4.5 Attributes

None.

3.1.4.4.6 Groups

None.

3.1.4.4.7 Attribute Groups

None.

3.1.4.5 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:

1. 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.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<10> be one of the values specified in section 2.2.2.1 or any of the following values.

- "DclNotTrusted"

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

3.1.4.5.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.5.1.1 ExcelServiceSoap_ApplySlicerSelection_InputMessage

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

The SOAP action value is:

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

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

3.1.4.5.1.2 ExcelServiceSoap_ApplySlicerSelection_OutputMessage

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

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

3.1.4.5.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.5.2.1 ApplySlicerSelection

The input data for the **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 section 2.2.4.20. MUST be present.

slicerOptions: The slicer identification. MUST be present. The following extend or override the standard behavior specified in section 2.2.4.41:

- **SlicerItemsCount:** MUST be ignored.
- **SlicerClearItems:** When set to "true", specifies unselecting all slicer items in the slicer 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", this value MUST be ignored.

3.1.4.5.2.2 ApplySlicerSelectionResponse

The result data for the **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 section 2.2.4.21. MUST be present.

3.1.4.5.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

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3.1.4.5.3.1 ArrayOfSlicerItemRange

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

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

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

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 zero.

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.

3.1.4.5.4 Simple Types

None.

3.1.4.5.5 Attributes

None.

3.1.4.5.6 Groups

None.

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3.1.4.5.7 Attribute Groups

None.

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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<11> be one of the values specified in section 2.2.2.1.

3.1.4.6.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.6.1.1 ExcelServiceSoap_ApplyTop10Filter_InputMessage

The request WSDL message for the **ApplyTop10Filter** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/ApplyTop10Filter
```

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

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3.1.4.6.1.2 ExcelServiceSoap_ApplyTop10Filter_OutputMessage

The response WSDL message for the **ApplyTop10Filter** WSDL operation.

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

3.1.4.6.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.6.2.1 ApplyTop10Filter

The input data for the **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 section 2.2.4.20. MUST be present.

autoFilterOptions: The options to be used when filtering the AutoFilter column (2). See section 2.2.4.14. The **CriteriaType** element MUST have the value "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 zero 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 the **ApplyTop10Filter** WSDL operation.

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


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

ApplyTop10FilterResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.6.3 Complex Types

None.

3.1.4.6.4 Simple Types

None.

3.1.4.6.5 Attributes

None.

3.1.4.6.6 Groups

None.

3.1.4.6.7 Attribute Groups

None.

3.1.4.7 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 section 3.1.4.7.1.1.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<12> be one of the values specified in section 2.2.2.1.

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3.1.4.7.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.7.1.1 ExcelServiceSoap_CancelRequest_InputMessage

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

The SOAP action value is:

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

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

3.1.4.7.1.2 ExcelServiceSoap_CancelRequest_OutputMessage

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

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

3.1.4.7.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.7.2.1 CancelRequest

The input data for the **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 specified in section 2.2.4.20. 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 the **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>
```


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

CancelRequestResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.7.3 Complex Types

None.

3.1.4.7.4 Simple Types

None.

3.1.4.7.5 Attributes

None.

3.1.4.7.6 Groups

None.

3.1.4.7.7 Attribute Groups

None.

3.1.4.8 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.

In the event of an application error on the protocol server during this operation, a soap fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<13> be one of the values specified in section 2.2.2.1.

3.1.4.8.1 Messages

The following WSDL message definitions are specific to this operation.

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3.1.4.8.1.1 ExcelServiceSoap_CloseWorkbook_InputMessage

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

The SOAP action value is:

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

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

3.1.4.8.1.2 ExcelServiceSoap_CloseWorkbook_OutputMessage

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

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

3.1.4.8.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.8.2.1 CloseWorkbook

The input data for the **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 section 2.2.4.20. 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, 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 the **CloseWorkbook** WSDL operation.

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


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

CloseWorkbookResult: A result as specified in section 2.2.4.21. MUST be present.

3.1.4.8.3 Complex Types

None.

3.1.4.8.4 Simple Types

None.

3.1.4.8.5 Attributes

None.

3.1.4.8.6 Groups

None.

3.1.4.8.7 Attribute Groups

None.

3.1.4.9 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:

1. The protocol client sends the information identifying the PivotTable manual filter in the **pivotOperationOptions** element.

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2. The protocol server returns the hierarchy of PivotTable members in **itemList**, as follows:

   - 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<14> be one of the values specified in section 2.2.2.1.

3.1.4.9.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.9.1.1 ExcelServiceSoap_ConnectAndGetPivotFilterItemList_InputMessage

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

The SOAP action value is:

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

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

3.1.4.9.1.2 ExcelServiceSoap_ConnectAndGetPivotFilterItemList_OutputMessage

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

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

3.1.4.9.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.9.2.1 ConnectAndGetPivotFilterItemList

The input data for the **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 section 2.2.4.20. MUST be present.

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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 section 2.2.4.28:

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

3.1.4.9.2.2 ConnectAndGetPivotFilterItemListResponse

The result data for the **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 section 2.2.4.21. MUST be present.

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

3.1.4.9.3 Complex Types

None.

3.1.4.9.4 Simple Types

None.

3.1.4.9.5 Attributes

None.

3.1.4.9.6 Groups

None.

3.1.4.9.7 Attribute Groups

None.

3.1.4.10 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
```


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```
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:

1. The protocol client sends the information identifying the slicer in the **slicerOptions** element.
2. If the data source for the slicer is OLAP, the protocol server connects to the **data source** (1) to obtain the requested slicer items. Otherwise the protocol server behaves the same as in **GetSlicerItemList** (section 3.1.4.27).
3. The protocol server returns a **SlicerItemList** (section 2.2.4.40) in **itemList**, as follows:
   - If the **SlicerItemsOffset** element of the **SlicerOptions** element is equal to -1 then the protocol server will determine the first slicer item in the resulting **itemList** in the following way:
     - If a call to **ApplySlicerSelection** was made in the current session, then the protocol server will determine the first slicer item in the resulting **itemList** as follows:
       - It will take the floor of the value obtained by taking the value of the of the **SlicerItemsOffset** element of the **SlicerOptions** element of the last call to **ApplySlicerSelection,** and dividing it by the number of visible slicer items.
       - From this value, the protocol server will subtract 2.
       - To the resulting value, the protocol server will multiple by the number of visible slicer items.
       - Finally, the protocol server will take the maximum of this value and 0, and get the first slicer item.
     - Otherwise, if a call was not made to **ApplySlicerSelection** in the current session, the protocol server uses the value in the **startItem** attribute in **CT_Slicer** ([MS-XLSX] section 2.6.68).
   - If **SlicerItemsCount** is equal to "-1", the lesser of the total number of slicer items or 5 times the visible number of items is returned.
4. If **SlicerItemsOffset** is equal to "-1", the protocol server returns a **SlicerFormatElementList** (section 2.2.4.38) in **formatList** that MUST contain 10 elements, as specified in section 2.2.4.9. Otherwise the protocol server MUST return a **formatList** with zero elements.

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In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<15> be one of the values specified in section 2.2.2.1 or any of the following values:

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

3.1.4.10.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.10.1.1 ExcelServiceSoap_ConnectAndGetSlicerItemList_InputMessage

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

The SOAP action value is:

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

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

3.1.4.10.1.2 ExcelServiceSoap_ConnectAndGetSlicerItemList_OutputMessage

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

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

3.1.4.10.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.10.2.1 ConnectAndGetSlicerItemList

The input data for the **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 section 2.2.4.20. MUST be present.

slicerOptions: The slicer identification. MUST be present. The following MUST extend or override the standard behavior specified in section 2.2.4.41:

- **SlicerClearItems:** MUST be ignored.

3.1.4.10.2.2 ConnectAndGetSlicerItemListResponse

The result data for the **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** (section 2.2.4.21). MUST be present.

itemList: A **SlicerItemList** as specified in section 2.2.4.40. MUST be present.

formatList: A **SlicerFormatElementList** as specified in section 2.2.4.38. MUST be present.

slicerView: A **SlicerView** element as specified in section 2.2.4.42. MUST be present.

3.1.4.10.3 Complex Types

None.

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3.1.4.10.4 Simple Types

None.

3.1.4.10.5 Attributes

None.

3.1.4.10.6 Groups

None.

3.1.4.10.7 Attribute Groups

None.

3.1.4.11 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<16> be one of the values specified in section 2.2.2.1.

3.1.4.11.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.11.1.1 ExcelServiceSoap_ExpandCollapseOutline_InputMessage

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

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The SOAP action value is:

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

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

3.1.4.11.1.2 ExcelServiceSoap_ExpandCollapseOutline_OutputMessage

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

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

3.1.4.11.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.11.2.1 ExpandCollapseOutline

The input data for the **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 section 2.2.4.20. 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", MUST NOT be longer than 287 characters.If the value of **namedRange** element is "false", MUST NOT be longer than 31 characters.

namedRange: When set to "true", 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, the following apply:

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- If the value of the **row** element is "true", the value of **outlineLevel** element MUST be the value specified for the **outlineLevel** attribute of the **CT_RowAxisItem** element ([MS-EXSPXML] section 2.2.42) that corresponds to row (2) index.
- If the value of the **row** element is "false", the value of **outlineLevel** element MUST be the value specified for the **outlineLevel** attribute of the **CT_ColumnAxisItem** element ([MS-EXSPXML] section 2.2.43) 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 the **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 section 2.2.4.21. MUST be present.

3.1.4.11.3 Complex Types

None.

3.1.4.11.4 Simple Types

None.

3.1.4.11.5 Attributes

None.

3.1.4.11.6 Groups

None.

3.1.4.11.7 Attribute Groups

None.

3.1.4.12 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"/>
```


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```
  <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:

1. The protocol server searches for the string specified by **searchTerm**.
2. The search starts at the adjacent cell of the one specified by **searchAfterCell**, in the direction specified by **searchUp**.
3. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<17> be one of the values specified in section 2.2.2.1.

3.1.4.12.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.12.1.1 ExcelServiceSoap_FindRange_InputMessage

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

The SOAP action value is:

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

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

3.1.4.12.1.2 ExcelServiceSoap_FindRange_OutputMessage

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

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

3.1.4.12.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.12.2.1 FindRange

The input data for the **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 2.2.4.20. 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, the following apply:

- It MUST NOT be longer than 31 characters.
- The value of the **SheetName** element of **VisibleSheetRange** element (section 2.2.4.44) in **parameter**, MUST be equal to this value.

If **SheetName** is not the name of a worksheet, the following apply:

- If the value of the **SheetName** element is longer than 287 characters, the protocol server MUST return an **ExcelServerMessage** as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** MUST be "InternalError".
- The value of the **ObjectName** element of the **VisibleSheetRange** element in **parameter** MUST be equal to this value.

3.1.4.12.2.2 FindRangeResponse

The result data for the **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>
```


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FindRangeResult: A **CommandResult** as specified in section 2.2.4.21. 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

The following XML Schema complex type definitions are specific to this operation.

3.1.4.12.3.1 SheetCell

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

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 1,048,575. If the value of **searchUp** element is "false", a negative value specifies to start the search from the first row (2) of the worksheet or named object that is the scope of the search. If the value of the **searchUp** element is "true", a negative value specifies to start the search from the last row (2) of the worksheet or named object that is 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 that is the scope of the search. MUST be greater than or equal to -2 and less than or equal to 16,383. If the value of the **searchUp** element is "false", a negative value specifies to start the search from the first column of the worksheet or named object that is the scope of the search. If the value of the **searchUp** element is "true", a negative value specifies to start the search from the last column of the worksheet or named object that is the scope of the search.

3.1.4.12.4 Simple Types

None.

3.1.4.12.5 Attributes

None.

3.1.4.12.6 Groups

None.

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3.1.4.12.7 Attribute Groups

None.

3.1.4.13 GetAutoFilterItemList

This operation is used to retrieve the filter values and filter date values and their captions in the **AutoFilterItemList** (section 3.1.4.13.3.1) 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 filtering as follows:

  1. The protocol server adds the filter values that exist in the AutoFilter with their current **filtering state** as specified in section 3.1.4.13.3.3 and **AutoFilterItems**.

  2. The protocol server adds the filter date values that exist in the AutoFilter with their current filtering state as specified in **AutoFilterDateNodeInfo** (section 2.2.4.13) 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:

     1. 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.

     2. 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.

     3. 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.

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4. 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.

5. 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.

6. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<18> be one of the values specified in section 2.2.2.1.

3.1.4.13.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.13.1.1 ExcelServiceSoap_GetAutoFilterItemList_InputMessage

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

The SOAP action value is:

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

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

3.1.4.13.1.2 ExcelServiceSoap_GetAutoFilterItemList_OutputMessage

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

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

3.1.4.13.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.13.2.1 GetAutoFilterItemList

The input data for the **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>
```


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

parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

autoFilterOptions: The options to use when filtering the AutoFilter columns specified in section 2.2.4.14. MUST be present.

3.1.4.13.2.2 GetAutoFilterItemListResponse

The result data for the **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 section 2.2.4.21. MUST be present.

autoFilterItemList: The filter values, filter date values and blank values filtering state of the AutoFilter as specified in section 3.1.4.13.3.1. MUST be present.

3.1.4.13.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.13.3.1 AutoFilterItemList

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

Specifies the filtering state of an AutoFilter on the protocol server in the **GetAutoFilterItemList** response (section 3.1.4.13.2.2).

```
<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"/>
```


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```
      <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", the following apply:

- The protocol client MUST ignore the **Second**, **Hour**, and **Minute** elements of the **AutoFilterDateNodeInfo** elements (section 2.2.4.13) 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 the **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 section 2.2.4.3. MUST be present. If the list contains zero elements, the protocol client MUST ignore it. MUST NOT contain more than 1000 **AutoFilterDateNodeInfo** elements. If the value of **ShowTime** element is "false", 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 zero. 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.

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- 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 **AutoFilterDateNodeInfo**. MUST be present. If the list contains zero 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 zero 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 zero 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 zero 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**

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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

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

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 section 3.1.4.13.3.3.

3.1.4.13.3.3 AutoFilterItem

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

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.

3.1.4.13.4 Simple Types

None.

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3.1.4.13.5 Attributes

None.

3.1.4.13.6 Groups

None.

3.1.4.13.7 Attribute Groups

None.

3.1.4.14 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<19> be one of the values specified in section 2.2.2.1.

3.1.4.14.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.14.1.1 ExcelServiceSoap_GetChart_InputMessage

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

The SOAP action value is:

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

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

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3.1.4.14.1.2 ExcelServiceSoap_GetChart_OutputMessage

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

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

3.1.4.14.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.14.2.1 GetChart

The input data for the **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 section 2.2.4.20. 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 the **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 section 2.2.4.21. 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].

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3.1.4.14.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.14.3.1 GetChartInformation

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

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", 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", 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).

3.1.4.14.4 Simple Types

None.

3.1.4.14.5 Attributes

None.

3.1.4.14.6 Groups

None.

3.1.4.14.7 Attribute Groups

None.

3.1.4.15 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"/>
```


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```
  <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 sections 2.2.4.21 and 2.2.4.34.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<20> be one of the values specified in section 2.2.2.1.

3.1.4.15.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.15.1.1 ExcelServiceSoap_GetHealthScore_InputMessage

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

The SOAP action value is:

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

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

3.1.4.15.1.2 ExcelServiceSoap_GetHealthScore_OutputMessage

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

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

3.1.4.15.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.15.2.1 GetHealthScore

The input data for the **GetHealthScore** WSDL operation.

```
<xs:element name="GetHealthScore">
  <xs:complexType/>
</xs:element>
```


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3.1.4.15.2.2 GetHealthScoreResponse

The result data for the **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 section 2.2.4.21. MUST be present.

3.1.4.15.3 Complex Types

None.

3.1.4.15.4 Simple Types

None.

3.1.4.15.5 Attributes

None.

3.1.4.15.6 Groups

None.

3.1.4.15.7 Attribute Groups

None.

3.1.4.16 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>
```


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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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<21> be one of the values specified in section 2.2.2.1.

3.1.4.16.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.16.1.1 ExcelServiceSoap_GetImage_InputMessage

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

The SOAP action value is:

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

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

3.1.4.16.1.2 ExcelServiceSoap_GetImage_OutputMessage

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

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

3.1.4.16.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.16.2.1 GetImage

The input data for the **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 section 2.2.4.20. 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 2.2.33).

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3.1.4.16.2.2 GetImageResponse

The result data for the **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 section 2.2.4.21. 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].

3.1.4.16.3 Complex Types

None.

3.1.4.16.4 Simple Types

None.

3.1.4.16.5 Attributes

None.

3.1.4.16.6 Groups

None.

3.1.4.16.7 Attribute Groups

None.

3.1.4.17 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
```


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```
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**.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<22> be one of the values specified in section 2.2.2.1.

3.1.4.17.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.17.1.1 ExcelServiceSoap_GetObjectInformation_InputMessage

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

The SOAP action value is:

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

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

3.1.4.17.1.2 ExcelServiceSoap_GetObjectInformation_OutputMessage

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

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

3.1.4.17.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.17.2.1 GetObjectInformation

The input data for the **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>
```


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parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

objectName: The name of the requested published item. MUST be present.

objectType: The type of the published item as specified in section 2.2.5.16.

3.1.4.17.2.2 GetObjectInformationResponse

The result data for the **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 section 2.2.4.21. MUST be present.

objectInformation: Information about the requested published item as specified in section 3.1.4.17.3.1. MUST be present.

3.1.4.17.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.17.3.1 ObjectInformation

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

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 section 2.2.4.35. MUST be present.

3.1.4.17.4 Simple Types

None.

3.1.4.17.5 Attributes

None.

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3.1.4.17.6 Groups

None.

3.1.4.17.7 Attribute Groups

None.

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** (section 3.1.4.9) 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:

1. 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.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<23> be one of the values specified in section 2.2.2.1.

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3.1.4.18.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.18.1.1 ExcelServiceSoap_GetPivotFilterItemList_InputMessage

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

The SOAP action value is:

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

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

3.1.4.18.1.2 ExcelServiceSoap_GetPivotFilterItemList_OutputMessage

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

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

3.1.4.18.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.18.2.1 GetPivotFilterItemList

The input data for the **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 section 2.2.4.20. MUST be present.

pivotOperationOptions: The PivotTable manual filter location. MUST be present. The following MUST extend or override the standard behavior specified in section 2.2.4.28:

- **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** (section 3.1.4.9) or **GetPivotFilterItemList** (section 3.1.4.18) for the same PivotTable manual filter.

3.1.4.18.2.2 GetPivotFilterItemListResponse

The result data for the **GetPivotFilterItemList** WSDL operation.

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```
<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 section 2.2.4.21. MUST be present.

itemList: The list of child PivotTable members. MUST be present.

3.1.4.18.3 Complex Types

None.

3.1.4.18.4 Simple Types

None.

3.1.4.18.5 Attributes

None.

3.1.4.18.6 Groups

None.

3.1.4.18.7 Attribute Groups

None.

3.1.4.19 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>
```


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

1. The protocol client sends the information identifying the PivotTable area in the **pivotOperationOptions** element.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<24> be one of the values specified in section 2.2.2.1

3.1.4.19.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.19.1.1 ExcelServiceSoap_GetPivotMenu_InputMessage

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

The SOAP action value is:

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

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

3.1.4.19.1.2 ExcelServiceSoap_GetPivotMenu_OutputMessage

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

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

3.1.4.19.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.19.2.1 GetPivotMenu

The input data for the **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 section 2.2.4.20. MUST be present.

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pivotOperationOptions: The PivotTable area location. MUST be present. The following MUST extend or override the standard behavior specified in section 2.2.4.28:

- **SourceIndex** MUST be zero ("0").
- **FieldId** MUST NOT be present.

3.1.4.19.2.2 GetPivotMenuResponse

The result data for the **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 section 2.2.4.21. MUST be present.

pivotMenu: The information about the PivotTable area as specified in section 3.1.4.19.3.1. MUST be present.

3.1.4.19.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.19.3.1 PivotMenu

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

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 section 3.1.4.6.

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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, 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

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

The **ArrayOfPivotField** type contains a list of **PivotField** elements (section 3.1.4.19.3.3).

```
<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

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

The **PivotField** type contains information about a PivotTable field.

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```
<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>
```

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** (section 3.1.4.2) for this **PivotTable** field, and to "false" if they are not one of the following:

- CaptionBeginsWith
- CaptionDoesNotBeginWith

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- 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 one of the following:

- DateEquals
- DateOlderThan
- DateNewerThan
- DateBetween
- DateTomorrow
- DateToday
- DateYesterday
- DateNextWeek
- DateThisWeek
- DateLastWeek
- DateNextMonth
- DateThisMonth
- DateLastMonth
- DateNextQuarter
- DateThisQuarter
- DateLastQuarter
- DateNextYear
- DateThisYear
- DateLastYear
- DateYearToDate
- DateAllDatesInPeriodQuarter1

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- 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** (section 2.2.5.17), 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

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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** (section 3.1.4.19.3.1), **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** (section 3.1.4.19.3.6) 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

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"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

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

The **ArrayOfPivotFilterParameter** type contains a list of **PivotFilterParameter** elements (section 3.1.4.19.3.5).

```
<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

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

The **PivotFilterParameter** type specifies a PivotTable custom filter applied to a **PivotTable** field.

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


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```
      <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 section 2.2.5.17. 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.

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3.1.4.19.3.6 Top10FilterParameter

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

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 section 3.1.4.19.4.1.

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 zero and less than or equal to 100. If **FilterType** is **Sum**, MUST be greater than or equal to zero.

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

The following XML Schema simple type definitions are specific to this operation.

3.1.4.19.4.1 Top10FilterType

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

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:

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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.

3.1.4.19.5 Attributes

None.

3.1.4.19.6 Groups

None.

3.1.4.19.7 Attribute Groups

None.

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**.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<25> be one of the values specified in section 2.2.2.1.

3.1.4.20.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.20.1.1 ExcelServiceSoap_GetPublishedObjects_InputMessage

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

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The SOAP action value is:

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

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

3.1.4.20.1.2 ExcelServiceSoap_GetPublishedObjects_OutputMessage

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

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

3.1.4.20.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.20.2.1 GetPublishedObjects

The input data for the **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 section 2.2.4.20. MUST be present.

options: GetPublishedObjectsOptions as specified in section 3.1.4.20.4.1.

3.1.4.20.2.2 GetPublishedObjectsResponse

The result data for the **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 section 2.2.4.21. MUST be present.

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publishedObjects: An array of **PublishedObjectName** elements as specified in section 3.1.4.20.3.1. MUST be present.

3.1.4.20.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.20.3.1 ArrayOfPublishedObjectName

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

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 section 3.1.4.20.3.2.

3.1.4.20.3.2 PublishedObjectName

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

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 section 2.2.5.16.

3.1.4.20.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

3.1.4.20.4.1 GetPublishedObjectsOptions

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

Specifies criteria for the published items returned by the protocol server.

```
<xs:simpleType name="GetPublishedObjectsOptions">
  <xs:list>
```


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```
      <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.

3.1.4.20.5 Attributes

None.

3.1.4.20.6 Groups

None.

3.1.4.20.7 Attribute Groups

None.

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.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<26> be one of the values specified in section 2.2.2.1 or any of the following values:

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- "EcsInvalidNamedObject"
- "InvalidSheetName"
- "RangeDefinitionError"
- "RangeParseError"
- "SheetRangeMismatch"

3.1.4.21.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.21.1.1 ExcelServiceSoap_GetRange_InputMessage

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

The SOAP action value is:

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

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

3.1.4.21.1.2 ExcelServiceSoap_GetRange_OutputMessage

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

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

3.1.4.21.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.21.2.1 GetRange

The input data for the **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 section 2.2.4.20. MUST be present.

3.1.4.21.2.2 GetRangeResponse

The result data for the **GetRange** WSDL operation.

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


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```
  <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 section 2.2.4.21. MUST be present.

3.1.4.21.3 Complex Types

None.

3.1.4.21.4 Simple Types

None.

3.1.4.21.5 Attributes

None.

3.1.4.21.6 Groups

None.

3.1.4.21.7 Attribute Groups

None.

3.1.4.22 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:

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1. 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.
2. The protocol server will not include trailing columns (2) that do not contain any values.
3. The protocol server will not include trailing rows (2) that do not contain any values.
4. Depending on security settings, the protocol server MAY<27> 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<28> be one of the values specified in section 2.2.2.1 or any of the following values.

- "InvalidSheetName"
- "RangeDefinitionError"
- "RangeParseError"
- "SheetRangeMismatch"

3.1.4.22.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.22.1.1 ExcelServiceSoap_GetRangeForClipboard_InputMessage

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

The SOAP action value is:

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

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

3.1.4.22.1.2 ExcelServiceSoap_GetRangeForClipboard_OutputMessage

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

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

3.1.4.22.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.22.2.1 GetRangeForClipboard

The input data for the **GetRangeForClipboard** WSDL operation.

```
<xs:element name="GetRangeForClipboard">
  <xs:complexType>
    <xs:sequence>
```


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```
      <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 section 2.2.4.20. 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 the **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 section 2.2.4.21. 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), the protocol server MUST include the tab (\t) character between each of the values for the cells in the response. If the range contains more than one visible row (2), 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.

3.1.4.22.3 Complex Types

None.

3.1.4.22.4 Simple Types

None.

3.1.4.22.5 Attributes

None.

3.1.4.22.6 Groups

None.

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3.1.4.22.7 Attribute Groups

None.

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:

1. Depending on security settings, the protocol server MAY<29> return a SOAP fault even if the requested range is present in the workbook.

2. 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.

3. 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.

4. 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.

5. If **formatted** is "false", the following apply:

   - 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, the type returned as part of **cellValues** element for this cell MUST be one of the following types: **boolean**, **double**, **string**, or **CellError** (section 2.2.5.5).

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<30> be one of the values specified in section 2.2.2.1 or any of the following values:

- "EcsInvalidNamedObject"

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- "InvalidSheetName"
- "RangeDefinitionError"
- "RangeParseError"
- "SheetRangeMismatch"

3.1.4.23.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.23.1.1 ExcelServiceSoap_GetRangeValues_InputMessage

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

The SOAP action value is:

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

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

3.1.4.23.1.2 ExcelServiceSoap_GetRangeValues_OutputMessage

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

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

3.1.4.23.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.23.2.1 GetRangeValues

The input data for the **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 section 2.2.4.20. 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.

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3.1.4.23.2.2 GetRangeValuesResponse

The result data for the **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 section 2.2.4.21. MUST be present.

cellValues: The values returned from the protocol server. MUST be present.

3.1.4.23.3 Complex Types

None.

3.1.4.23.4 Simple Types

None.

3.1.4.23.5 Attributes

None.

3.1.4.23.6 Groups

None.

3.1.4.23.7 Attribute Groups

None.

3.1.4.24 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"/>
```


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```
</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:

1. If **sheetName** is not present, the protocol server MUST return a SOAP fault. The **Id** element of the **ExcelServerMessage** MUST be "InternalError".

2. Depending on security settings, the protocol server MAY<31> return a SOAP fault even if the requested range is present in the workbook.

3. Each element inside the **rangeRequests** element MUST be of type **RangeValuesA1** as specified in section 2.2.4.31. The number of elements MUST be equal to the number of named ranges that the protocol client tries to get values from.

4. 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".

5. If **formatting** is "Formatted", 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.

6. If **formatted** is "Unformatted", the following apply:

   - 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** (section 2.2.5.5).

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<32> be one of the values specified in section 2.2.2.1 or any of the following values.

- "EcsInvalidNamedObject"
- "InvalidSheetName"
- "RangeDefinitionError"
- "RangeParseError"

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- "SheetRangeMismatch"

3.1.4.24.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.24.1.1 ExcelServiceSoap_GetRangeValuesA1_InputMessage

The request WSDL message for the **GetRangeValuesA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/GetRangeValuesA1
```

The SOAP body contains the **GetRangeValuesA1** element.

3.1.4.24.1.2 ExcelServiceSoap_GetRangeValuesA1_OutputMessage

The response WSDL message for the **GetRangeValuesA1** WSDL operation.

The SOAP body contains the **GetRangeValuesA1Response** element.

3.1.4.24.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.24.2.1 GetRangeValuesA1

The input data for the **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 section 2.2.4.20. 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 "Formatted" if the values need to be **number formatted** and "Unformatted" if the values do not need to be number formatted.

3.1.4.24.2.2 GetRangeValuesA1Response

The result data for the **GetRangeValuesA1** WSDL operation.

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```
<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 section 2.2.4.21. MUST be present.

rangeRequests: An array of **RangeValuesA1** elements that contains the values retrieved from the protocol server.

3.1.4.24.3 Complex Types

None.

3.1.4.24.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

3.1.4.24.4.1 CellDataFormat

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

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

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Value	Meaning
	in section 2.2.4.16.

3.1.4.24.5 Attributes

None.

3.1.4.24.6 Groups

None.

3.1.4.24.7 Attribute Groups

None.

3.1.4.25 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 (section 3.1.4.30) 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<33> be one of the values specified in section 2.2.2.1.

3.1.4.25.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.25.1.1 ExcelServiceSoap_GetSessionInformation_InputMessage

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

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The SOAP action value is:

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

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

3.1.4.25.1.2 ExcelServiceSoap_GetSessionInformation_OutputMessage

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

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

3.1.4.25.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.25.2.1 GetSessionInformation

The input data for the **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 section 2.2.4.20. MUST be present. The following MUST extend or override the standard behavior specified in section 2.2.4.20:

- **StateId** MUST be "-1".
- **ProtocolClientId** value MUST be "ms-soap".

3.1.4.25.2.2 GetSessionInformationResponse

The result data for the **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 section 2.2.4.21. MUST be present.

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serverVersion: The version of the protocol server. MUST be present. MAY<34> 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.

3.1.4.25.3 Complex Types

None.

3.1.4.25.4 Simple Types

None.

3.1.4.25.5 Attributes

None.

3.1.4.25.6 Groups

None.

3.1.4.25.7 Attribute Groups

None.

3.1.4.26 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/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>
```

The protocol client sends an **ExcelServiceSoap_GetSheetNames_InputMessage**, and the protocol server responds with an **ExcelServiceSoap_GetSheetNames_OutputMessage**, as follows:

1. 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.

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2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<35> be one of the values specified in section 2.2.2.1.

3.1.4.26.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.26.1.1 ExcelServiceSoap_GetSheetNames_InputMessage

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

The SOAP action value is:

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

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

3.1.4.26.1.2 ExcelServiceSoap_GetSheetNames_OutputMessage

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

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

3.1.4.26.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.26.2.1 GetSheetNames

The input data for the **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 section 2.2.4.20. MUST be present.

3.1.4.26.2.2 GetSheetNamesResponse

The result data for the **GetSheetNames** WSDL operation.

```
<xs:element name="GetSheetNamesResponse">
  <xs:complexType>
    <xs:sequence>
```


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```
      <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 section 2.2.4.21. MUST be present.

sheetNames: An array of **SheetName** elements as specified in section 3.1.4.26.3.1. MUST be present.

3.1.4.26.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.26.3.1 ArrayOfSheetName

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

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 section 3.1.4.26.3.2.

3.1.4.26.3.2 SheetName

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

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 section 3.1.4.26.4.1.

Visibility: The visible condition of a sheet (1) as specified in section 3.1.4.26.4.2.

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3.1.4.26.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

3.1.4.26.4.1 SheetType

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

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

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

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.

3.1.4.26.5 Attributes

None.

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3.1.4.26.6 Groups

None.

3.1.4.26.7 Attribute Groups

None.

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** (section 2.2.4.40) in **itemList** with the following conditions.
  - If the **SlicerItemsCount** element in **SlicerOptions** (section 2.2.4.41) 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 (section 2.2.4.39) equal to the **SlicerItemsCount** element in **SlicerOptions**.
  - If **SlicerItemsCount** element of **SlicerOptions** is greater than the total number of slicer items, the **SlicerItems** element of **itemList** MUST contain a list with all slicer items starting at **SlicerItemsOffset**.
  - If **SlicerItemsOffset** is greater than or equal to zero, the list of elements in **itemList** MUST begin at **SlicerItemsOffset**.
  - If **SlicerItemsOffset** is equal to "-1", the protocol server determines the first slicer item in the resulting **itemList** in the following way:
    - If a call to **ApplySlicerSelection** was made in the current session, the protocol server uses the value of the **SlicerItemsOffset** element of the **SlicerOptions** element of the last call to **ApplySlicerSelection**.
    - Otherwise, the protocol server uses the value in the **startItem** attribute in **CT_Slicer** ([MS-XLSX] section 2.6.68).

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- If the **SlicerItemsOffset** element of **SlicerOptions** is greater than the number of slicer items, **itemList** MUST be empty.
- If **SlicerItemsCount** is equal to "-1", the lesser of the total number of items or 5 times the visible number of items is returned.
- If **SlicerItemsOffset** is equal to "-1", the protocol server returns a **SlicerFormatElementList** (section 2.2.4.38) in **formatList** that MUST contain 10 elements, as specified in section 2.2.4.9. Otherwise, the protocol server MUST return a **formatList** with zero elements.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<36> be one of the values specified in section 2.2.2.1.

3.1.4.27.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.27.1.1 ExcelServiceSoap_GetSlicerItemList_InputMessage

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

The SOAP action value is:

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

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

3.1.4.27.1.2 ExcelServiceSoap_GetSlicerItemList_OutputMessage

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

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

3.1.4.27.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.27.2.1 GetSlicerItemList

The input data for the **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 section 2.2.4.20. MUST be present.

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slicerOptions: The slicer identification. MUST be present. The following MUST extend or override the standard behavior specified in section 2.2.4.41:

- **SlicerClearItems:** MUST be ignored.

3.1.4.27.2.2 GetSlicerItemListResponse

The result data for the **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 section 2.2.4.21. MUST be present.

itemList: A **SlicerItemList** as specified in section 2.2.4.40. MUST be present.

formatList: A **SlicerFormatElementList** as specified in section 2.2.4.38. MUST be present.

slicerView: A **SlicerView** element as specified in section 2.2.4.42. MUST be present.

3.1.4.27.3 Complex Types

None.

3.1.4.27.4 Simple Types

None.

3.1.4.27.5 Attributes

None.

3.1.4.27.6 Groups

None.

3.1.4.27.7 Attribute Groups

None.

3.1.4.28 GetSparklines

This operation is used to return an image containing sparklines.

```
<wsdl:operation name="GetSparklines">
```


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```
  <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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<37> be one of the values specified in section 2.2.2.1.

3.1.4.28.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.28.1.1 ExcelServiceSoap_GetSparklines_InputMessage

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

The SOAP action value is:

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

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

3.1.4.28.1.2 ExcelServiceSoap_GetSparklines_OutputMessage

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

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

3.1.4.28.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.28.2.1 GetSparklines

The input data for the **GetSparklines** WSDL operation.

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


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```
    <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 section 2.2.4.20. MUST be present.

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

3.1.4.28.2.2 GetSparklinesResponse

The result data for the **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 section 2.2.4.21. 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].

3.1.4.28.3 Complex Types

None.

3.1.4.28.4 Simple Types

None.

3.1.4.28.5 Attributes

None.

3.1.4.28.6 Groups

None.

3.1.4.28.7 Attribute Groups

None.

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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.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<38> be one of the values specified in section 2.2.2.1.

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

The following WSDL message definitions are specific to this operation.

3.1.4.29.1.1 ExcelServiceSoap_GetWorkbook_InputMessage

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

The SOAP action value is:

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

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

3.1.4.29.1.2 ExcelServiceSoap_GetWorkbook_OutputMessage

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

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

3.1.4.29.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.29.2.1 GetWorkbook

The input data for the **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 section 2.2.4.20. MUST be present. The following MUST extend or override the standard behavior specified in section 2.2.4.20.

- **StateId** MUST be "-1".

workbookType: The form of the requested workbook as specified in section 2.2.5.22.

3.1.4.29.2.2 GetWorkbookResponse

The result data for the **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 section 2.2.4.21. MUST be present.

bits: A workbook file. MUST be present.

3.1.4.29.3 Complex Types

None.

3.1.4.29.4 Simple Types

None.

3.1.4.29.5 Attributes

None.

3.1.4.29.6 Groups

None.

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3.1.4.29.7 Attribute Groups

None.

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:

1. If **flags** does not have any values set, a new view session will be created by the protocol server.
2. If **flags** does not contain the **NewWorkbook** value, the following apply:
   - 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], or [ODF] but MAY be in any other format.
     - If it is in the [ISO/IEC-29500-1] or in the [MS-OFFMACRO2] formats:
       - It MAY<39> 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<40> 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 **BrtBeginECDbProps** record is present, its **stConn** field SHOULD be in the format specified by [MS-ODBCSTR] or [MS-OLEDBSTR].

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- 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.

3. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<41> be one of the values specified in section 2.2.2.1 or any of the following values:

- "DclNotTrusted"
- "EcsInvalidNamedObject"
- "EditModeCannotAcquireLock"
- "EditModeCannotEditNonSharePointWorkbook"
- "EditModeWorkbookCheckedOutRequired"
- "ErrorAccessingSsoFromEcs"
- "ErrorAccessingSsofromWfe"
- "ErrorConnectingToDataSource"
- "ErrorConnectingToDataSourceReadOrViewOnly"
- "ExternalDataNotAllowedOnTL"
- "ExternalDataRefreshFailed"
- "ExternalDataRefreshFailed_Details"
- "ExternalDataRefreshFailedReadOrViewOnly"
- "ExternalDataRefreshFailedReal"
- "FileCorrupt"
- "FileOpenAccessDenied"
- "FileOpenNotFound"
- "FileOpenSecuritySettings"
- "GenericFileOpenError"
- "IncorrectAuthUsed"
- "InvalidSheetName"
- "InvalidUriOrLocalConnectionPath"

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- "InvalidUserNameOrPassword"
- "InvalidUserNameOrPasswordReadOrViewOnly"
- "NoAccessToOdcReadOrViewOnly"
- "OdcFileDoesNotExist"
- "OpenWorkbookAccessDenied"
- "OpenWorkbookLocationNotTrusted"
- "OpenWorkbookTooLarge"
- "ParameterInvalid"
- "ParameterLimitExceeded"
- "RangeDefinitionError"
- "RangeParseError"
- "SheetRangeMismatch"
- "UnattendedAccountNotConfigured"
- "WorkbookNotSupported"
- "WorkbookNotSupportedViewRight"

3.1.4.30.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.30.1.1 ExcelServiceSoap_OpenWorkbook_InputMessage

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

The SOAP action value is:

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

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

3.1.4.30.1.2 ExcelServiceSoap_OpenWorkbook_OutputMessage

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

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

3.1.4.30.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.30.2.1 OpenWorkbook

The input data for the **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:element minOccurs="0" maxOccurs="1" name="canary" 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 Uniform Resource Identifier (URI), as specified in [RFC2396], or a **Universal Naming Convention (UNC)**, the protocol server MUST return an **ExcelServerMessage** as specified in section 2.2.2, with the value of the **Id** element of the **ExcelServerMessage** set to one of the following:

- "FileOpenNotFound", if flags does not contain the value "NewWorkbook".
- "NewWorkbookInvalidLocation", if flags contains the value "NewWorkbook".

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

flags: Control flags, as specified in section 3.1.4.30.4.1.

parameter: A **CommandParameter**, as specified in section 2.2.4.20. 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**.

canary: MUST NOT be used.

3.1.4.30.2.2 OpenWorkbookResponse

The result data for the **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"/>
```


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

OpenWorkbookResult: A result as specified in section 2.2.4.21. MUST be present.

workbookId: The session identifier (2) of the newly created or joined session. MUST be present.

outFlags: Output flags, as specified in section 3.1.4.30.4.2. MUST be present.

outParameters: Out parameters, as specified in section 3.1.4.30.3.2. MUST be present.

3.1.4.30.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.30.3.1 CultureCommandParameter

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

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<42> 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] and described in the following table.

TimeZone	=	Bias "#" StandardDate "#" StandardBias "#" DaylightDate "#" DaylightBias
Bias	=	"+"\"-" 4DIGIT

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TimeZone	=	Bias "#" StandardDate "#" StandardBias "#" DaylightDate "#" DaylightBias
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**:

- **Bias** MUST be the **time zone bias**.
- **StandardDate** MUST be the **time zone standard date**.
- **StandardBias** MUST be the **time zone standard bias**.
- **DaylightDate** MUST be the **time zone daylight date**.
- **DaylightBias** MUST be the **time zone daylight bias**.
- The following restrictions are specified in [RFC3339]:
  - **Month** MUST be date-month.
  - **Day** MUST be date-mday.
  - **Hour** MUST be time-hour.
  - **Minute** MUST time-minute.
  - **Second** MUST be time-second.
- **DayOfWeek** MUST have one of the values described in the following table.

Value	Meaning
00	Sunday

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Value	Meaning
01	Monday
02	Tuesday
03	Wednesday
04	Thursday
05	Friday
06	Saturday

3.1.4.30.3.2 OpenWorkbookOutParameters

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

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:element minOccurs="0" maxOccurs="1" name="CopyAndEditUri" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FileSharingUri" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="FilePropertiesUri" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="CloseUri" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="HostViewUri" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="FileSourceId" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

ClientWorkbookUri: If the value of the **outFlags** element of **OpenWorkbookResponse** (section 3.1.4.30.2.2) contains the value "HasOpenItemPermission" and the value of the **flags** element of **OpenWorkbook** (section 3.1.4.30) does not contain "NewWorkbook", MUST contain a valid URI as specified in [RFC2396]. The protocol server sets the absolute path to the workbook file that was opened. Otherwise, MUST be ignored by the protocol client.

WorkbookFileName: If the value of the **flags** element of **OpenWorkbook** does not contain "NewWorkbook", 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.

CopyAndEditUri: MUST NOT be used.

FileSharingUri: MUST NOT be used.

FilePropertiesUri: MUST NOT be used.

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CloseUri: MUST be empty if the workbook file is not contained in a document library; otherwise MUST contain a valid URI, as specified in [RFC2396], of the document library containing the workbook file.

HostViewUri: MUST NOT be used.

FileSourceId: Value MUST be equal to "422603853".

3.1.4.30.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

3.1.4.30.4.1 OpenWorkbookFlags

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

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:enumeration value="ShouldCheckCanary"/>
        <xs:enumeration value="InternalWorkbook"/>
        <xs:enumeration value="EmbedView"/>
        <xs:enumeration value="DisallowXls"/>
      </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**, and **Recyclable**.
DisableUndo	The protocol server disables undo functionality in the open workbook.
Recyclable	The protocol server uses **session recycling**. Mutually exclusive to **EditMode**.
ShouldCheckCanary	MUST NOT be used.
InternalWorkbook	MUST NOT be used.
EmbedView	MUST NOT be used.
DisallowXls	MUST NOT be used.

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3.1.4.30.4.2 OpenWorkbookOutFlags

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

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:enumeration value="HasUnsupportedFeatures"/>
        <xs:enumeration value="SupportsEditing"/>
        <xs:enumeration value="StaticView"/>
      </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.
SupportsEditing	Specified if making changes to the workbook file is supported in the document library.
StaticView	MUST NOT be used.

3.1.4.30.5 Attributes

None.

3.1.4.30.6 Groups

None.

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3.1.4.30.7 Attribute Groups

None.

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** (section 2.2.4.35) 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<43> be one of the values specified in section 2.2.2.1 or any of the following values:

- "RangeParseError"

3.1.4.31.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.31.1.1 ExcelServiceSoap_ParseRange_InputMessage

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

The SOAP action value is:

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

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

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3.1.4.31.1.2 ExcelServiceSoap_ParseRange_OutputMessage

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

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

3.1.4.31.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.31.2.1 ParseRange

The input data for the **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 section 2.2.4.20. MUST be present.

rangeToParse: A range, as specified in section 2.2.5.18, to be parsed. MUST be present.

3.1.4.31.2.2 ParseRangeResponse

The result data for the **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 section 2.2.4.21. MUST be present.

sheetRange: The range, as specified in section 2.2.4.35, was parsed by the protocol server. MUST be present. **SheetName** MUST be present and MUST NOT be empty.

3.1.4.31.3 Complex Types

None.

3.1.4.31.4 Simple Types

None.

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3.1.4.31.5 Attributes

None.

3.1.4.31.6 Groups

None.

3.1.4.31.7 Attribute Groups

None.

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.

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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<44> be one of the values specified in section 2.2.2.1 or any of the following values:

- "EcsInvalidNamedObject"
- "InvalidSheetName"
- "RangeDefinitionError"
- "RangeParseError"
- "SheetRangeMismatch"

3.1.4.32.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.32.1.1 ExcelServiceSoap_Recalc_InputMessage

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

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The SOAP action value is:

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

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

3.1.4.32.1.2 ExcelServiceSoap_Recalc_OutputMessage

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

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

3.1.4.32.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.32.2.1 Recalc

The input data for the **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 section 2.2.4.20. MUST be present.

sheetRange: A **SheetRange** (section 2.2.4.35) to calculate in the workbook. MUST be present. **SheetName** MUST be present and MUST NOT be empty.

3.1.4.32.2.2 RecalcResponse

The result data for the **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 section 2.2.4.21. MUST be present.

3.1.4.32.3 Complex Types

None.

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3.1.4.32.4 Simple Types

None.

3.1.4.32.5 Attributes

None.

3.1.4.32.6 Groups

None.

3.1.4.32.7 Attribute Groups

None.

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:

1. If **rangeName** is empty, the protocol server calculates the whole sheet (2), which is specified in the **sheetName** element.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<45> be one of the values specified in section 2.2.2.1 or any of the following values.

- "EcsInvalidNamedObject"
- "InvalidSheetName"
- "RangeDefinitionError"
- "RangeParseError"

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- "SheetRangeMismatch"

3.1.4.33.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.33.1.1 ExcelServiceSoap_RecalcA1_InputMessage

The request WSDL message for the **RecalcA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/ExcelServiceSoap/RecalcA1
```

The SOAP body contains the **RecalcA1** element.

3.1.4.33.1.2 ExcelServiceSoap_RecalcA1_OutputMessage

The response WSDL message for the **RecalcA1** WSDL operation.

The SOAP body contains the **RecalcA1Response** element.

3.1.4.33.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.33.2.1 RecalcA1

The input data for the **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 section 2.2.4.20. 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 section 2.2.5.18, to calculate. MUST be present.

3.1.4.33.2.2 RecalcA1Response

The result data for the **RecalcA1** WSDL operation.

```
<xs:element name="RecalcA1Response">
```


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```
  <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 section 2.2.4.21. MUST be present.

3.1.4.33.3 Complex Types

None.

3.1.4.33.4 Simple Types

None.

3.1.4.33.5 Attributes

None.

3.1.4.33.6 Groups

None.

3.1.4.33.7 Attribute Groups

None.

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.

This operation is a state changing operation on the protocol server.

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In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<46> be one of the values specified in section 2.2.2.1.

3.1.4.34.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.34.1.1 ExcelServiceSoap_RecalcAll_InputMessage

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

The SOAP action value is:

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

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

3.1.4.34.1.2 ExcelServiceSoap_RecalcAll_OutputMessage

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

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

3.1.4.34.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.34.2.1 RecalcAll

The input data for the **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 section 2.2.4.20. MUST be present.

calculateType: The type of calculation to be executed as specified in section 3.1.4.34.4.1.

3.1.4.34.2.2 RecalcAllResponse

The result data for the **RecalcAll** WSDL operation.

```
<xs:element name="RecalcAllResponse">
  <xs:complexType>
    <xs:sequence>
```


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

RecalcAllResult: A **CommandResult**, as specified in section 2.2.4.21. MUST be present.

3.1.4.34.3 Complex Types

None.

3.1.4.34.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

3.1.4.34.4.1 CalculateType

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

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.

3.1.4.34.5 Attributes

None.

3.1.4.34.6 Groups

None.

3.1.4.34.7 Attribute Groups

None.

3.1.4.35 Refresh

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

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```
<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:

1. 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.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<47> be one of the values specified in section 2.2.2.1 or any of the following values:

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

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- "OdcFileDoesNotExist"
- "UnattendedAccountNotConfigured"

3.1.4.35.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.35.1.1 ExcelServiceSoap_Refresh_InputMessage

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

The SOAP action value is:

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

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

3.1.4.35.1.2 ExcelServiceSoap_Refresh_OutputMessage

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

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

3.1.4.35.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.35.2.1 Refresh

The input data for the **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 section 2.2.4.20. 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 the **Refresh** WSDL operation.

```
<xs:element name="RefreshResponse">
  <xs:complexType>
    <xs:sequence>
```


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

RefreshResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.35.3 Complex Types

None.

3.1.4.35.4 Simple Types

None.

3.1.4.35.5 Attributes

None.

3.1.4.35.6 Groups

None.

3.1.4.35.7 Attribute Groups

None.

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.

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In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<48> be one of the values specified in section 2.2.2.1 or any of the following values.

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

3.1.4.36.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.36.1.1 ExcelServiceSoap_RefreshAll_InputMessage

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

The SOAP action value is:

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

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

3.1.4.36.1.2 ExcelServiceSoap_RefreshAll_OutputMessage

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

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

3.1.4.36.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.36.2.1 RefreshAll

The input data for the **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 section 2.2.4.20. 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 the **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 section 2.2.4.21. MUST be present.

3.1.4.36.3 Complex Types

None.

3.1.4.36.4 Simple Types

None.

3.1.4.36.5 Attributes

None.

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3.1.4.36.6 Groups

None.

3.1.4.36.7 Attribute Groups

None.

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:

1. The protocol client sends the information identifying the PivotTable field in the **pivotOperationOptions** element.

2. 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<49> be one of the values specified in section 2.2.2.1 or any of the following values.

- "DclNotTrusted"
- "ErrorAccessingSsoFromEcs"
- "ErrorAccessingSsofromWfe"
- "ErrorConnectingToDataSource"
- "ErrorConnectingToDataSourceReadOrViewOnly"
- "ExternalDataNotAllowedOnTL"
- "ExternalDataRefreshFailed"
- "ExternalDataRefreshFailed_Details"

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- "ExternalDataRefreshFailedReadOrViewOnly"
- "ExternalDataRefreshFailedReal"
- "IncorrectAuthUsed"
- "InvalidUriorLocalConnectionPath"
- "InvalidUserNameOrPassword"
- "InvalidUserNameOrPasswordReadOrViewOnly"
- "NoAccessToOdcReadOrViewOnly"
- "OdcFileDoesNotExist"
- "UnattendedAccountNotConfigured"

3.1.4.37.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.37.1.1 ExcelServiceSoap_RemovePivotFilter_InputMessage

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

The SOAP action value is:

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

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

3.1.4.37.1.2 ExcelServiceSoap_RemovePivotFilter_OutputMessage

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

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

3.1.4.37.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.37.2.1 RemovePivotFilter

The input data for the **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>
```


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

parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

pivotOperationOptions: The PivotTable field identification as specified in section 2.2.4.28. MUST be present.

3.1.4.37.2.2 RemovePivotFilterResponse

The result data for the **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 section 2.2.4.21. MUST be present.

3.1.4.37.3 Complex Types

None.

3.1.4.37.4 Simple Types

None.

3.1.4.37.5 Attributes

None.

3.1.4.37.6 Groups

None.

3.1.4.37.7 Attribute Groups

None.

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
```


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```
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:

1. If the value of **ColumnWidth** element in **ResizeRowColumnRange** (section 3.1.4.38.3.1) is equal to "-1", the following apply:
   - The value of RowHeight element, as specified in ResizeRowColumnRange, MUST be larger than or equal to zero.
   - The protocol server sets the **row (2)** height to the value of RowHeight element as specified in ResizeRowColumnRange.
2. If the value of **RowHeight** element in **ResizeRowColumnRange** is equal to "-1", the following apply:
   - The value of **ColumnWidth** element, as specified in **ResizeRowColumnRange**, MUST be larger than or equal to zero.
   - 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<50> be one of the values specified in section 2.2.2.1.

This operation is a state changing operation on the protocol server.

3.1.4.38.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.38.1.1 ExcelServiceSoap_ResizeRowsColumns_InputMessage

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

The SOAP action value is:

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

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

3.1.4.38.1.2 ExcelServiceSoap_ResizeRowsColumns_OutputMessage

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

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

3.1.4.38.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.38.2.1 ResizeRowsColumns

The input data for the **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 section 2.2.4.20. 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 section 3.1.4.38.3.1. MUST be present.

3.1.4.38.2.2 ResizeRowsColumnsResponse

The result data for the **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 section 2.2.4.21. MUST be present.

3.1.4.38.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.38.3.1 ResizeRowColumnRange

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

The type specifies the height or width for the rows (2) or columns (2) to apply to a range as specified in section 2.2.4.35.

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


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```
  <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.

3.1.4.38.4 Simple Types

None.

3.1.4.38.5 Attributes

None.

3.1.4.38.6 Groups

None.

3.1.4.38.7 Attribute Groups

None.

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.

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In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<51> be one of the values specified in section 2.2.2.1 or any of the following values:

- "SavingUnsupportedInViewMode"
- "SavingWorkbookAccessDenied"
- "SavingWorkbookLockedOrCheckedOut"

3.1.4.39.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.39.1.1 ExcelServiceSoap_SaveWorkbook_InputMessage

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

The SOAP action value is:

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

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

3.1.4.39.1.2 ExcelServiceSoap_SaveWorkbook_OutputMessage

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

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

3.1.4.39.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.39.2.1 SaveWorkbook

The input data for the **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>
```

parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

3.1.4.39.2.2 SaveWorkbookResponse

The result data for the **SaveWorkbook** WSDL operation.

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


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```
  <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 section 2.2.4.21. MUST be present.

3.1.4.39.3 Complex Types

None.

3.1.4.39.4 Simple Types

None.

3.1.4.39.5 Attributes

None.

3.1.4.39.6 Groups

None.

3.1.4.39.7 Attribute Groups

None.

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:

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1. If the following conditions are met, 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**.

2. If the previous conditions are not met, a SOAP fault is returned, as specified in section 2.2.2.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<52> be one of the values specified in section 2.2.2.1 or any of the following values:

- "SavingWorkbookAccessDenied"
- "SavingWorkbookFileNameExists"
- "SavingWorkbookInvalidFileName"
- "SavingWorkbookInvalidLocation"
- "SavingWorkbookInvalidPermissions"
- "SavingWorkbookLockedOrCheckedOut"
- "SavingWorkbookNotCheckedOut"
- "SavingWorkbookNotTrustedLocation"

3.1.4.40.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.40.1.1 ExcelServiceSoap_SaveWorkbookAs_InputMessage

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

The SOAP action value is:

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

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

3.1.4.40.1.2 ExcelServiceSoap_SaveWorkbookAs_OutputMessage

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

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

3.1.4.40.2 Elements

The following XML Schema element definitions are specific to this operation.

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3.1.4.40.2.1 SaveWorkbookAs

The input data for the **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 section 2.2.4.20. MUST be present.

location: The location of the workbook file to write. MUST be present. If the specified value is not a URI as specified in [RFC2396], the protocol server MUST return an **ExcelServerMessage** as specified in the section 2.2.2 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 section 2.2.5.22. MUST be present.

flags: A combination of 0 or more values of **SaveAsFlags** (section 3.1.4.40.4.1). MUST be present.

3.1.4.40.2.2 SaveWorkbookAsResponse

The result data for the **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 section 2.2.4.21. MUST be present.

savedWorkbookUri: The location to which the workbook was written. MUST be present. MUST be a valid URI.

3.1.4.40.3 Complex Types

None.

3.1.4.40.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

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3.1.4.40.4.1 SaveAsFlags

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

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, if the **location** specified in the **SaveWorkbookAs** operation corresponds to an existing file, the protocol server does 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.

3.1.4.40.5 Attributes

None.

3.1.4.40.6 Groups

None.

3.1.4.40.7 Attribute Groups

None.

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"/>
```


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```
  <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.

In the event of an application error on the protocol server during this operation, a SOAP fault is returned, as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<53> be one of the values specified in section 2.2.2.1.

3.1.4.41.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.41.1.1 ExcelServiceSoap_SetCalculationOptions_InputMessage

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

The SOAP action value is:

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

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

3.1.4.41.1.2 ExcelServiceSoap_SetCalculationOptions_OutputMessage

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

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

3.1.4.41.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.41.2.1 SetCalculationOptions

The input data for the **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>
```


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parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

calcType: The calculation mode value as specified in section 3.1.4.41.4.1.

3.1.4.41.2.2 SetCalculationOptionsResponse

The result data for the **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>
```

SetCalculationOptionsResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.41.3 Complex Types

None.

3.1.4.41.4 Simple Types

The following XML Schema simple type definitions are specific to this operation.

3.1.4.41.4.1 WorkbookCalculation

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

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).

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3.1.4.41.5 Attributes

None.

3.1.4.41.6 Groups

None.

3.1.4.41.7 Attribute Groups

None.

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.

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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<54> be one of the values specified in section 2.2.2.1 or any of the following values.

- "DclNotTrusted"
- "ErrorAccessingSsoFromEcs"
- "ErrorAccessingSsofromWfe"
- "ErrorConnectingToDataSource"
- "ErrorConnectingToDataSourceReadOrViewOnly"
- "ExternalDataNotAllowedOnTL"
- "ExternalDataRefreshFailed"
- "ExternalDataRefreshFailed_Details"
- "ExternalDataRefreshFailedReadOrViewOnly"

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- "ExternalDataRefreshFailedReal"
- "FormulaEditingNotEnabled"
- "IncorrectAuthUsed"
- "InvalidUriorLocalConnectionPath"
- "InvalidUserNameOrPassword"
- "InvalidUserNameOrPasswordReadOrViewOnly"
- "NoAccessToOdcReadOrViewOnly"
- "OdcFileDoesNotExist"
- "ParameterDoesNotExist"
- "SetParameterFailure"
- "UnattendedAccountNotConfigured"

3.1.4.42.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.42.1.1 ExcelServiceSoap_SetParameters_InputMessage

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

The SOAP action value is:

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

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

3.1.4.42.1.2 ExcelServiceSoap_SetParameters_OutputMessage

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

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

3.1.4.42.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.42.2.1 SetParameters

The input data for the **SetParameters** WSDL operation.

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


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

parameter: A **CommandParameter** as specified in section 2.2.4.20. MUST be present.

workbookParameters: The workbook parameters to be set in the workbook as specified in section 3.1.4.42.3.1. MUST be present.

3.1.4.42.2.2 SetParametersResponse

The result data for the **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 section 2.2.4.21. MUST be present.

3.1.4.42.3 Complex Types

The following XML Schema complex type definitions are specific to this operation.

3.1.4.42.3.1 ArrayOfWorkbookParameter

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

The **ArrayOfWorkbookParameter** complex type contains an array of **WorkbookParameter** elements (section 3.1.4.42.3.2). 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 section 3.1.4.42.3.2.

3.1.4.42.3.2 WorkbookParameter

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

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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 zero 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 section 2.2.4.11. 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", the following apply:

- If the **Values** element is not present, the protocol server changes 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 changes 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 uses 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", the following apply:

- If the **Values** element is not present, the protocol server changes the slicer manual filter in the workbook to the default filter value.

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- If the **Values** element is present and there are no elements in **ArrayOfString**, the protocol server changes 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 uses the values as the slicer manual filter in the workbook.

Each string element of **ArrayOfString** MUST NOT be longer than 1024 characters.

3.1.4.42.4 Simple Types

None.

3.1.4.42.5 Attributes

None.

3.1.4.42.6 Groups

None.

3.1.4.42.7 Attribute Groups

None.

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:

1. 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".
2. 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".
3. If the user does not have the Open Item permission on the workbook, **cellsArray** SHOULD<55> contain only one item.

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4. 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.

5. 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.

6. 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 section 2.2.4.20 is set to "ms-ewa", the protocol server sets the text representation of the formulas into the cells.

   - If the value of **ProtocolClientId** element in the **parameter** as defined in section 2.2.4.20 is set to "ms-soap", the protocol server returns a SOAP fault as specified in section 2.2.2. The **Id** element of the **ExcelServerMessage** MUST be "FormulaParseFailed".

7. 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**, 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<56> be one of the values specified in section 2.2.2.1 or any of the following values:

- "CannotEditPivotTable"
- "DimensionMismatch"
- "EcsInvalidNamedObject"
- "FormulaEditingNotEnabled"
- "InvalidSheetName"
- "ObjectTypeNotSupported"
- "RangeDefinitionError"
- "RangeParseError"
- "SetRangeFailure"
- "SheetRangeMismatch"

3.1.4.43.1 Messages

The following WSDL message definitions are specific to this operation.

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3.1.4.43.1.1 ExcelServiceSoap_SetRange_InputMessage

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

The SOAP action value is:

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

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

3.1.4.43.1.2 ExcelServiceSoap_SetRange_OutputMessage

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

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

3.1.4.43.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.43.2.1 SetRange

The input data for the **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 section 2.2.4.20. MUST be present.

sheetRange: The range to set. See section 2.2.4.35. 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 the **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>
```


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SetRangeResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.43.3 Complex Types

None.

3.1.4.43.4 Simple Types

None.

3.1.4.43.5 Attributes

None.

3.1.4.43.6 Groups

None.

3.1.4.43.7 Attribute Groups

None.

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:

1. Each element inside the **SetRangeRequest** MUST be of type **RangeValuesA1** as specified in section 2.2.4.31. 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, as follows:

   - 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.

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- 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.

2. 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**, it MUST NOT be longer than 32,767 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.

3. If the **Values** element of **RangeValuesA1** contains formulas not recognized by the protocol server, the following apply:

   - If the value of **ProtocolClientId** element in the **parameter** as defined in **CommandParameter** (section 2.2.4.20) 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** MUST be "FormulaParseFailed".

4. If the user does not have Open Item permission on the workbook, the **Value** of **RangeValuesA1** SHOULD<57> 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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<58> be one of the values specified in 2.2.2.1 or any of the following values:

- "CannotEditPivotTable"
- "DimensionMismatch"
- "EcsInvalidNamedObject"
- "FormulaEditingNotEnabled"
- "InvalidSheetName"
- "ObjectTypeNotSupported"
- "RangeDefinitionError"
- "RangeParseError"
- "SetRangeFailure"
- "SheetRangeMismatch"

3.1.4.44.1 Messages

The following WSDL message definitions are specific to this operation.

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3.1.4.44.1.1 ExcelServiceSoap_SetRangeA1_InputMessage

The request WSDL message for the **SetRangeA1** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalService/Excel
ServiceSoap/SetRangeA1
```

The SOAP body contains the **SetRangeA1** element.

3.1.4.44.1.2 ExcelServiceSoap_SetRangeA1_OutputMessage

The response WSDL message for the **SetRangeA1** WSDL operation.

The SOAP body contains the **SetRangeA1Response** element.

3.1.4.44.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.44.2.1 SetRangeA1

The input data for the **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 section 2.2.4.20. 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 the **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 section 2.2.4.21. MUST be present.

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3.1.4.44.3 Complex Types

None.

3.1.4.44.4 Simple Types

None.

3.1.4.44.5 Attributes

None.

3.1.4.44.6 Groups

None.

3.1.4.44.7 Attribute Groups

None.

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/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>
```

The protocol client sends an **ExcelServiceSoap_SortFilterColumn_InputMessage** request message, and the protocol server responds with an **ExcelServiceSoap_SortFilterColumn_OutputMessage** response message.

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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<59> be one of the values specified in section 2.2.2.1.

3.1.4.45.1 Messages

The following WSDL message definitions are specific to this operation.

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3.1.4.45.1.1 ExcelServiceSoap_SortFilterColumn_InputMessage

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

The SOAP action value is:

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

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

3.1.4.45.1.2 ExcelServiceSoap_SortFilterColumn_OutputMessage

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

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

3.1.4.45.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.45.2.1 SortFilterColumn

The input data for the **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 section 2.2.4.20. MUST be present.

autoFilterOptions: The options to be used when sorting the AutoFilter column as specified in section 2.2.4.14. 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 the **SortFilterColumn** WSDL operation.

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


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

SortFilterColumnResult: A **CommandResult** as specified in section 2.2.4.21. MUST be present.

3.1.4.45.3 Complex Types

None.

3.1.4.45.4 Simple Types

None.

3.1.4.45.5 Attributes

None.

3.1.4.45.6 Groups

None.

3.1.4.45.7 Attribute Groups

None.

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:

1. The protocol client sends the PivotTable member to be expanded or collapsed in the **pivotOperationOptions** element.

2. The protocol server expands the PivotTable member if it was collapsed. The protocol server collapses the PivotTable member if it was expanded.

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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 section 2.2.2. The **Id** element of the **ExcelServerMessage** SHOULD<60> be one of the values specified in section 2.2.2.1 or any of the following values.

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

3.1.4.46.1 Messages

The following WSDL message definitions are specific to this operation.

3.1.4.46.1.1 ExcelServiceSoap_TogglePivotDrill_InputMessage

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

The SOAP action value is:

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

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

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3.1.4.46.1.2 ExcelServiceSoap_TogglePivotDrill_OutputMessage

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

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

3.1.4.46.2 Elements

The following XML Schema element definitions are specific to this operation.

3.1.4.46.2.1 TogglePivotDrill

The input data for the **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 section 2.2.4.20. 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 section 2.2.4.28:

- **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 2.2.41) 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 2.2.41) set to "true".

3.1.4.46.2.2 TogglePivotDrillResponse

The result data for the **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 section 2.2.4.21. MUST be present.

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3.1.4.46.3 Complex Types

None.

3.1.4.46.4 Simple Types

None.

3.1.4.46.5 Attributes

None.

3.1.4.46.6 Groups

None.

3.1.4.46.7 Attribute Groups

None.

3.1.5 Timer Events

3.1.5.1 Session Timeout

The **Session Timeout** event MAY<61> completes a request for a timed out time sessions (2) with a SOAP fault, as specified in section 2.2.2, with the value of the **Id** element of the **ExcelServerMessage** set to "InvalidOrTimedOutSession".

3.1.5.2 Request Timeout

The **Request Timeout** event SHOULD<62> completes a request by the protocol server with a SOAP fault, as specified in section 2.2.2, with the value of the **Id** element of the **ExcelServerMessage** set to "MaxRequestDurationExceeded".

3.1.6 Other Local Events

None.

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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.

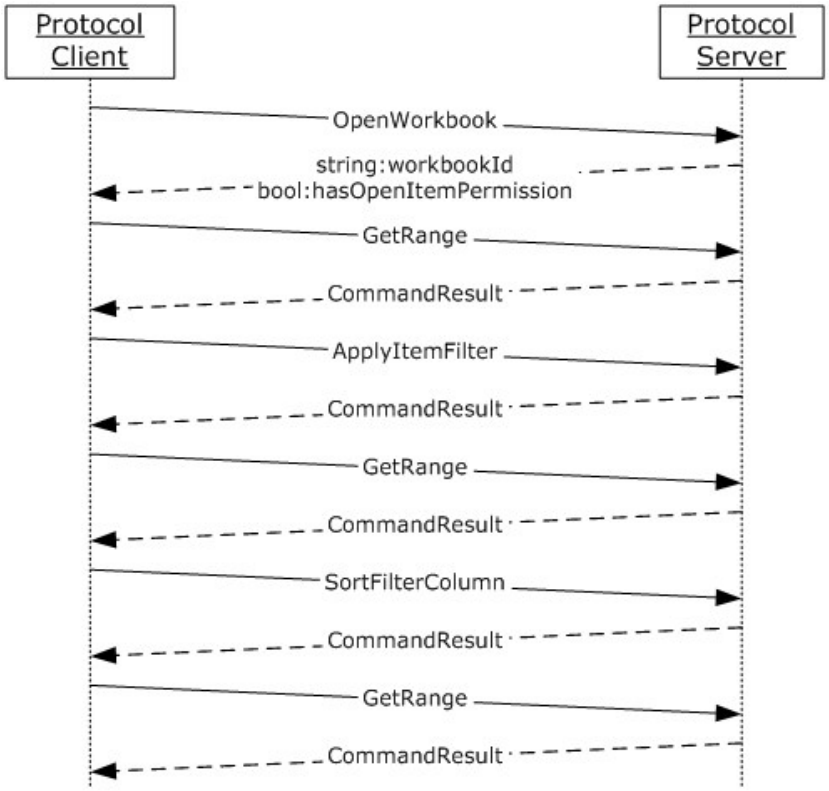

Figure 3: Communication sequence diagram for filtering and sorting a list and returning XML

The order of operations, including the relevant **XML** 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">
```


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```
      <OpenWorkbook
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalServic
e/">
         <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/ExcelServerInternalServic
e/">
         <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>
```


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```
                        <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>
```


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```
            </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/ExcelServerInternalServic
e/">
         <parameter>
            <WorkbookId>1.V21.2l4QQ/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/ExcelServerInternalServic
e/">
```


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```
<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>
         <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>
```


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```
                  <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">
```


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```
                        <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">
```


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```
                     <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>
```


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```
                  </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">
```


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```
                        <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>
```


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```
      <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/ExcelServerInternalServic
e/">
         <parameter>
            <WorkbookId>1.V21.2l4QQ/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/ExcelServerInternalServic
e/">
         <ApplyItemFilterResult>
```


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```
            <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/ExcelServerInternalServic
e/">
         <parameter>
            <WorkbookId>1.V21.2l4QQ/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">
```


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```
      <GetRangeResponse
xmlns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalServic
e/">
         <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">
```


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```
                        <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>
```


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```
                        <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">
```


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```
                        <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">
```


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```
                        <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/ExcelServerInternalServic
e/">
         <parameter>
            <WorkbookId>1.V21.2l4QQ/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>
```


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```
            <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/ExcelServerInternalServic
e/">
         <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/ExcelServerInternalServic
e/">
      <parameter>
        <WorkbookId>1.V21.2l4QQ/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>
```


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```
          <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/ExcelServerInternalServic
e/">
      <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>
```


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```
              <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="BothAsc" Name=" Internet Sales Amount "
CriteriaType="AboveAverage"/>
                </autofilter>
              </autofilters>
```


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```
            <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">
```


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```
                    <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">
```


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```
                    <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>
                <Row Height="15" HeightPixels="20">
                  <Cell StyleID="6" Index="2"/>
                </Row>
              </Table>
            </Worksheet>
            <Worksheet Name="Sheet2">
              <WorksheetOptions DisplayOutlines="1"/>
            </Worksheet>
            <Worksheet Name="Sheet3">
```


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```
              <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>
```


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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, 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.

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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: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/ExcelServerInternalSe
rvice/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" name="ExcelServiceSoap"
targetNamespace="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInte
rnalService/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema
xmlns:tns="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalSe
rvice/" attributeFormDefault="unqualified" elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInte
rnalService/" 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: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:element minOccurs="0" maxOccurs="1" name="canary" type="xs:string" />
          </xs:sequence>
        </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:enumeration value="ShouldCheckCanary" />
              <xs:enumeration value="InternalWorkbook" />
              <xs:enumeration value="EmbedView" />
              <xs:enumeration value="DisallowXls" />
            </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" />
```


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```
          <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 xmlns:q1="http://microsoft.com/wsdl/types/" minOccurs="1" maxOccurs="1"
name="RequestSiteId" 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>
      <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" />
```


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```
<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: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" />
```


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```
<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" />
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      <xs:enumeration value="RetryOutOfSync" />
      <xs:enumeration value="OperationFailed" />
      <xs:enumeration value="OpenInExcelActiveXError" />
      <xs:enumeration value="ProcessingUserChangesFileDownloadIgnored" />
      <xs:enumeration value="PhoneticDataLossWarning" />
      <xs:enumeration value="NoUnsupportedFeatureCopyAndEdit" />
      <xs:enumeration value="InsertChartPivotTable" />
      <xs:enumeration value="EditChartTitleTooLong" />
      <xs:enumeration value="EditChartTitleStartsWithEquals" />
      <xs:enumeration value="EditChartDataTooLong" />
      <xs:enumeration value="EditChartDataInvalidReference" />
      <xs:enumeration value="EditChartDataOverlapsPivotTable" />
      <xs:enumeration value="ChartOperationNotSupported" />
      <xs:enumeration value="EditChartDataPivotChart" />
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      <xs:enumeration value="ChartTooManyDataSeries" />
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      <xs:enumeration value="ODFUnreadableContentGeneric" />
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type="xs:string" />
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type="tns:OpenWorkbookOutFlags" />
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type="tns:OpenWorkbookOutParameters" />
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type="tns:CommandResultExtendedInfo" />
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type="tns:PeriodicRefreshInfo" />
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type="tns:ServerHealthInformation" />
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type="xs:boolean" />
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type="tns:ExcelServerMessageType" />
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type="tns:ExcelServerMessageAppearance" />
          <xs:element minOccurs="0" maxOccurs="1" name="Description" type="xs:string" />
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type="tns:WorkbookType" />
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          <xs:enumeration value="PublishedItemsSnapshot" />
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type="tns:CommandResult" />
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type="tns:ArrayOfAnyType" />
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type="tns:CommandParameter" />
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type="tns:ArrayOfRangeValuesA1" />
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type="tns:CellDataFormat" />
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type="tns:CommandResult" />
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type="tns:ArrayOfRangeValuesA1" />
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      </xs:element>
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type="tns:CommandParameter" />
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type="tns:CommandResult" />
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type="tns:ArrayOfRangeValuesA1" />
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type="tns:ArrayOfWorkbookParameter" />
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type="tns:CommandResult" />
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type="tns:ResizeRowColumnRange" />
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type="tns:CommandParameter" />
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type="xs:string" />
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type="tns:CommandResult" />
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type="tns:CalculateType" />
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type="tns:CommandResult" />
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type="tns:CommandParameter" />
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type="tns:CommandResult" />
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type="tns:CommandResult" />
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type="tns:CommandResult" />
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type="tns:SheetCell" />
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type="tns:CommandResult" />
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type="tns:CommandParameter" />
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type="tns:AutoFilterOptions" />
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            <xs:element minOccurs="1" maxOccurs="1" name="percent" type="xs:boolean" />
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type="tns:ArrayOfAutoFilterCriteria" />
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type="tns:AutoFilterCriteriaType" />
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type="tns:AutoFilterRelationOperator" />
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          <xs:enumeration value="GT" />
          <xs:enumeration value="GTEQ" />
          <xs:enumeration value="LT" />
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            <xs:enumeration value="Or" />
            <xs:enumeration value="LastCount" />
          </xs:restriction>
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            <xs:enumeration value="Today" />
            <xs:enumeration value="Yesterday" />
            <xs:enumeration value="NextWeek" />
            <xs:enumeration value="ThisWeek" />
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            <xs:enumeration value="NextMonth" />
            <xs:enumeration value="ThisMonth" />
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  type="tns:CommandResult" />
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        <xs:element name="ApplyItemFilter">
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  type="tns:CommandParameter" />
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            <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" />
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          <xs:element minOccurs="1" maxOccurs="1" name="Day" type="xs:short" />
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          <xs:enumeration value="Max" />
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type="tns:CommandResult" />
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type="tns:CommandParameter" />
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type="tns:AutoFilterOptions" />
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type="tns:CommandParameter" />
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type="tns:AutoFilterOptions" />
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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" />
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type="tns:ArrayOfAutoFilterDateNodeInfo" />
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type="tns:ArrayOfAutoFilterItem" />
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type="tns:ArrayOfAnyType" />
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/>
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type="tns:ArrayOfAnyType" />
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          <xs:element minOccurs="0" maxOccurs="1" name="HourKeys" type="tns:ArrayOfAnyType"
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          <xs:element minOccurs="0" maxOccurs="1" name="DayValues" type="tns:ArrayOfAnyType"
/>
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type="tns:ArrayOfAnyType" />
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<xs:enumeration value="DateAllDatesInPeriodAugust" />
<xs:enumeration value="DateAllDatesInPeriodSeptember" />
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elementFormDefault="qualified"
targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Excel.Server"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
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              <xs:enumeration value="Yes" />
              <xs:enumeration value="No" />
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```
<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" />
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```
<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" />
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```
            <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="NoUnsupportedFeatureCopyAndEdit" />
            <xs:enumeration value="InsertChartPivotTable" />
            <xs:enumeration value="EditChartTitleTooLong" />
            <xs:enumeration value="EditChartTitleStartsWithEquals" />
            <xs:enumeration value="EditChartDataTooLong" />
            <xs:enumeration value="EditChartDataInvalidReference" />
            <xs:enumeration value="EditChartDataOverlapsPivotTable" />
            <xs:enumeration value="ChartOperationNotSupported" />
            <xs:enumeration value="EditChartDataPivotChart" />
            <xs:enumeration value="ChangeChartTypePivotScatter" />
            <xs:enumeration value="ChartTooManyDataSeries" />
            <xs:enumeration value="OdfCompatibilityWarning" />
            <xs:enumeration value="ODFUnsupportedEncryption" />
            <xs:enumeration value="ODFUnreadableContentGeneric" />
            <xs:enumeration value="Ewr_ODFUnreadableContentGeneric" />
            <xs:enumeration value="NoLicenseError" />
            <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: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>
```


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```
      <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" />
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```
  </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">
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    <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 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">
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    <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>
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```
  <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>
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```
  <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" />
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  </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">
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    <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 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>
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  <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">
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    <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
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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>
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    <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/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>
    <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" />
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      <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
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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
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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"
```


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```
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">
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      <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
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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
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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" />
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    </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" />
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      <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>
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        <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: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" />
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      </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 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>
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    </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">
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```
      <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="RecalcA1">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/ExcelServiceSoap/RecalcA1" 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>
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```
        <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: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" />
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      </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 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>
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    </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">
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      <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>
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        <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: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" />
```


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```
      </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 name="GetHealthScore">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/Excel/Server/WebServices/ExcelServerInternalS
ervice/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>
```


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```
    </wsdl:operation>
  </wsdl:binding>
  </wsdl:definitions>
```


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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 2.2.2.1: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.9.

<2> Section 2.2.4.13: If the date value is the 0th day in the month of January of the year 1900, Excel Calculation Services 2010 sets the value of the **Day** element to zero ("0").

<3> Section 2.2.4.13: If the date value is the 0th day in the month of January of the year 1900, Excel Calculation Services 2010 sets the value of the **Day** element to zero ("0").

<4> Section 2.2.5: Excel Calculation Services 2010 uses the **A1** notation. See [MSFT-ACRR].

<5> Section 2.2.5.18: Excel Calculation Services 2010 uses the A1 notation. See [MSFT-ACRR].

<6> Section 3.1.4.1: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<7> Section 3.1.4.2: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<8> Section 3.1.4.3: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<9> Section 3.1.4.4: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<10> Section 3.1.4.5: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<11> Section 3.1.4.6: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<12> Section 3.1.4.7: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<13> Section 3.1.4.8: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<14> Section 3.1.4.9: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

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<15> Section 3.1.4.10: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<16> Section 3.1.4.11: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<17> Section 3.1.4.12: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<18> Section 3.1.4.13: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<19> Section 3.1.4.14: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<20> Section 3.1.4.15: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<21> Section 3.1.4.16: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<22> Section 3.1.4.17: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<23> Section 3.1.4.18: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<24> Section 3.1.4.19: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<25> Section 3.1.4.20: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<26> Section 3.1.4.21: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<27> Section 3.1.4.22: Excel Calculation Services 2010 returns the **SpecifiedItemNotFound** value specified in section 2.2.5.10 if a user does not have Open Item permission and if the requested range is not wholly contained inside a published item.

<28> Section 3.1.4.22: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<29> Section 3.1.4.23: Excel Calculation Services 2010 returns the **SpecifiedItemNotFound** value specified in section 2.2.5.10 if a user does not have Open Item permission and if the requested range is not wholly contained inside a published item.

<30> Section 3.1.4.23: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<31> Section 3.1.4.24: Excel Calculation Services 2010 returns the **SpecifiedItemNotFound** value specified in section 2.2.5.10 if a user does not have Open Item permission and if the requested range is not wholly contained inside a published item.

<32> Section 3.1.4.24: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

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<33> Section 3.1.4.25: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<34> Section 3.1.4.25.2.2: Excel Calculation Services 2010 returns "Excel Calculation Services (14.0)" when the **GetSessionInformation** operation is called.

<35> Section 3.1.4.26: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<36> Section 3.1.4.27: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<37> Section 3.1.4.28: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<38> Section 3.1.4.29: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<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 has exceptions as noted in [MSDN-UFES].

<41> Section 3.1.4.30: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<42> 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.

<43> Section 3.1.4.31: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<44> Section 3.1.4.32: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<45> Section 3.1.4.33: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<46> Section 3.1.4.34: Excel Calculation Services 2010 can use any of the values specified in ExcelServerMessageId.

<47> Section 3.1.4.35: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<48> Section 3.1.4.36: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<49> Section 3.1.4.37: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<50> Section 3.1.4.38: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<51> Section 3.1.4.39: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<52> Section 3.1.4.40: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

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<53> Section 3.1.4.41: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<54> Section 3.1.4.42: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<55> 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 **cellsArray** contains values in only one dimension (A single column (2) or a single row (2)), and the first worksheet cell of **sheetRange** falls on a workbook parameter.

<56> Section 3.1.4.43: Excel Calculation Services 2010 can use any of the values specified in ExcelServerMessageId.

<57> 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.

<58> Section 3.1.4.44: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<59> Section 3.1.4.45: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<60> Section 3.1.4.46: Excel Calculation Services 2010 can use any of the values specified in section 2.2.5.10.

<61> 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.

<62> Section 3.1.5.2: In Excel Calculation Services 2010, only some operations time out. Other operations can go over the allotted time.

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8 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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