# 2 Structures

## 2.1 File Structure

This section specifies the overall 整体structure of a file that conforms 符合to this specification.

A file of the type specified by this document is an [**OLE compound file**](#gt_b39d4d3a-2d16-4bab-b9fd-ba8e1f16e6a4). A **compound file** (section [2.1.1](#Section_b91df1c96bfa4ab482187bb0d73624ca)) contains storages, **streams** (section [2.1.2](#Section_f67ac5edb0a74b2c9b7a28933eeaac7e)), and **substreams** (section [2.1.3](#Section_5e380e95a9f54dfdb6d9c6998a9772f8)). Each **stream** or **substream** contains a series 系列of binary **records** (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)). Each binary **record** contains zero or more structured fields 字段that contain the [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe) data.

### 2.1.1 Compound File

A file of the type specified by this document MUST be an [**OLE compound file**](#gt_b39d4d3a-2d16-4bab-b9fd-ba8e1f16e6a4) as specified in [[MS-CFB]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-CFB%5d.pdf#Section_53989ce47b054f8d829bd08d6148375b).

### 2.1.2 Stream

A file of the type specified by this document consists 由of storages and [**streams**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) as specified in [[MS-CFB]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-CFB%5d.pdf#Section_53989ce47b054f8d829bd08d6148375b). Each binary stream or **substream** (section [2.1.3](#Section_5e380e95a9f54dfdb6d9c6998a9772f8)) that contains [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe) data MUST be written as a series 系列of binary **records** (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)) as specified in section [2.1.7](#Section_e1ea0a148d2c469b8875272091ea5aa9).

The valid 有效的storages, streams, and **substreams** in a file of the type specified by this document are specified in section 2.1.7.

A workbook MUST contain the **workbook** stream (section [2.1.7.20](#Section_f682f4b08c6b444e83f852d156f1e8ba)), with at least one [**sheet (1)**](#gt_0b356926-f9cb-4dc2-a859-71441d62503d) **substream** (**Worksheet Substream** (section [2.1.7.20.5](#Section_f41c06f2905749a18c3fa4a4d211fc56)), **Chart Sheet Substream** (section [2.1.7.20.1](#Section_732ff614d939416bb7c76d983471ff11)), **Macro Sheet Substream** (section [2.1.7.20.4](#Section_0dddd943f77a4fc2bf92868acb4587f7)), or **Dialog Sheet Substream** (section [2.1.7.20.2](#Section_da37feb48b9a462d87772a5fddd4866e))) that follows the **Globals Substream** (section [2.1.7.20.3](#Section_ca4c174887294a93abb94602b3a01fb1)).

This document uses [**Augmented Backus-Naur Form (ABNF)**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) as specified in [[RFC5234]](https://go.microsoft.com/fwlink/?LinkId=123096) to specify the **record** sequence for **streams** and **substreams** that contain binary **records**.

### 2.1.3 Substream

The **workbook** stream (section [2.1.7.20](#Section_f682f4b08c6b444e83f852d156f1e8ba)) contains substreams that specify global 全球properties and data for a [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe) and specify the [**sheets (1)**](#gt_0b356926-f9cb-4dc2-a859-71441d62503d) that constitute 构成the workbook. The beginning of each substream is marked by a **BOF** record (section [2.4.21](#Section_4d6a3d1ed7c5405fbbaed01e9cb79366)) that has a **dt** field that specifies the type of the substream. The end of each substream is marked by an **EOF record** (section [2.4.103](#Section_012176fe5802423b913578e22642456b)).

For more information about these substreams, see section 2.1.7.20 and subsections.

### 2.1.4 Record

A record is the basic 基本building block used to store information about features in a [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe). Each binary record is a variable-length sequence of bytes. A binary record consists 由of three components: a record type, a record size, and the record data that is specific to that record type.

The record type is a two-byte unsigned integer that specifies what type of information is specified by the record and how the structure of the record data specific to this record is ordered and structured. Record type values MUST be a value from the **Record** Enumeration (section [2.3](#Section_7c84e174e96f45e0b23fa5e81f8b5def)) or the record MUST make use of the **future record** architecture 体系结构(section [2.1.6](#Section_b660b67822684414839ed1ae9a4e4e85)).

The record size is a two-byte unsigned integer that specifies the count of bytes that specifies the total size of the record data. The record size MUST be greater than or equal to 0 and MUST be less than or equal to 8224.

The record data component contains fields that correspond 对应to a particular 特定的record type and comprise 组成the remainder 剩余部分of the record. The order and structure of the fields for a given record type listed in section 2.3 are specified in the corresponding 相应的section for that record type in section [2.4](#Section_6fba03830d7a4c7aafe9642ff70cbd36). The size of the record data component MUST be equal to the record size. Fields in the record data component can contain simple values, arrays of values, structures of several fields, arrays of fields, and arrays of structures.

If the total number of bytes to be written for a given record data component is greater than 8224, a collection of **Continue** (section [2.4.58](#Section_999fae21d3d942e88290639782460c67)), **ContinueFrt** (section [2.4.60](#Section_3aa793f4afb042be8ac7bb47d76da6f0)), **ContinueFrt11** (section [2.4.61](#Section_c707340cf220455f8ffcb7ab49e9b0a7)), or **ContinueFrt12** (section [2.4.62](#Section_e6527fe5f420420fad3fe5a242d04eee)) records, as specified in the respective [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) for that record, is used to contain the remaining record data. In general, the first 8224 bytes of data is contained in the record data component of the given record and the remaining data is divided into blocks of 8224 bytes and contained in the subsequent collection of **Continue** (section 2.4.58), **ContinueFrt** (section 2.4.60), **ContinueFrt11** (section 2.4.61), or **ContinueFrt12** records, until all the data is written. See specific record definitions for exceptions. **ContinueBigName** (section [2.4.59](#Section_f45a9462f6eb49879dc99a20f37e8cf3)) and **CrtMlFrtContinue** (section [2.4.71](#Section_5c6756e59b7840c4a6cdaf05aa79af69)) are special cases that only apply to a single record type.

### 2.1.5 Collection of Records

A collection of **records** (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)) is a series of related **records** that are treated as a single set. **Records** in a collection do not have to share the same **record** type. A collection of **records** can further contain other collections of **records**. The beginning of a collection of **records** is sometimes indicated by a different type of **record**, as specified in the **record** sequence [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) where the rule that contains that **record** is specified. Similarly the end of a collection of **records** is sometimes indicated by a different type of **record**, as specified by the **record** sequence ABNF where the rule that contains that **record** is specified. Each **record** or collection within the collection can be referred to by index, and the index count starts over for each collection.

In this document, **record** A precedes **record** B when **record** A is the last **record** of that type to appear before **record** B, in the **stream** (section [2.1.2](#Section_f67ac5edb0a74b2c9b7a28933eeaac7e)) or **substream** (section [2.1.3](#Section_5e380e95a9f54dfdb6d9c6998a9772f8)) that contains those **records**.

In this document, **record** B follows **record** A when **record** A is the last **record** of that type to appear before **record** B, in the **stream** or **substream** that contains those **records**.

### 2.1.6 Future Record

The future record architecture enables an application that does not support certain **records** (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)) to open and save the file while ignoring but preserving those **records** in the file. **Records** that contain an **FRTHeader** (section [2.5.135](#Section_d56e99f8a2714db1923c222722d21a37)), **FrtHeaderOld** (section [2.5.136](#Section_02b165efca714c4393ca613d0d5a020b)), **FrtRefHeader** (section [2.5.137](#Section_21d54bbb614e414a91805fffda407d4f)), **FrtRefHeaderNoGrbit** (section [2.5.138](#Section_837c2085a74b497dbfb37e85a611fcf0)). or **FrtRefHeaderU** (section [2.5.139](#Section_81109a771dbd43fe84d2b5177bb41297)) structure, as specified in this document, are future records and can be treated as such by an application that implements the future record architecture. Future **records** that are not supported by an application can be cached on load and persisted on save, enabling the data to be retained in the file for an application that does support those **records**. When loading and caching these unsupported **records**, an application can process [**range**](#gt_c2c93fec-8d3e-45de-8010-c738cc1cea99) references associated with the unsupported **records** as specified in the **FRTHeader**, **FrtHeaderOld**, **FrtRefHeader**, **FrtRefHeaderNoGrbit**, or **FrtRefHeaderU** structures. The application can adjust these range references as [**cells**](#gt_43d1e51e-4f26-493b-b7c9-e84e920d7461) are inserted, deleted or moved in the [**sheets (1)**](#gt_0b356926-f9cb-4dc2-a859-71441d62503d) to preserve the correctness and validity of these range references associated with the unsupported **records** when saving the [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe) along with the unsupported **records**.

For an in-depth discussion of how these structures relate to each other, read the specification for each structure in section [2.5](#Section_67410b0bfca64019ae2da53f9d392e03).

#### 2.1.6.1 Chart

There are three types of **future records** (section [2.1.6](#Section_b660b67822684414839ed1ae9a4e4e85)) that can appear in the **Chart Sheet Substream** (section [2.1.7.20.1](#Section_732ff614d939416bb7c76d983471ff11)).

The first type of **future record** is specific to a **chart** (section [2.2.3.3](#Section_f9430fdccd0f40dd93243bdf4ce7cc4c)) and is stored by using the **future record** architecture as specified in the Future Record section (section 2.1.6). Specifically, these **future records** that are specific to **charts** have a record type that MUST be greater than or equal to 2048 and MUST be less than or equal to 2303, as specified in section [2.3](#Section_7c84e174e96f45e0b23fa5e81f8b5def). These **future records** MUST exist in the collection of **records** (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)) specified by the **StartBlock** records (section [2.4.266](#Section_79f4d08551a0473c8b0f8d920026f889)) and **EndBlock** records (section [2.4.100](#Section_f1e06d16dd094706bc4982b3ee9ed638)), unless they exist in the collection of **records** specified by the **StartObject** records (section [2.4.267](#Section_2f7fb73d86f64f3d8f1c3b757ea8c0f6)) and **EndObject** records (section [2.4.101](#Section_bb3ce42b14974ce2b58d973549813772)). The **StartBlock** records (section 2.4.266) and **EndBlock** records themselves MUST NOT appear in the collection of **records** specified by the **StartObject** records and **EndObject records**. Furthermore, a **ChartFrtInfo** record (section [2.4.49](#Section_178fb12563ae4c24b7db918713698b2f)) MUST precede the first **future record** that is specific to a **chart** in a **Chart Sheet Substream**.

The second type of **future record** is stored by wrapping otherwise non-**future records** in the **FrtWrapper** record (section [2.4.130](#Section_d60fb31a5e0f4b9a8373546d1ed71fd9)), as specified in section 2.4.130. These **records** MUST be written in their entirety (the record type, record size and record data components, as specified in section 2.1.4) in the **wrappedRecord** field of the **FrtWrapper record**. These MUST exist in the collection of **records** specified by the **StartObject** records and **EndObject** records.

The third type of **future record** is any other **future record** that is stored by using the **future record** architecture as specified in section 2.1.6, not belonging to the first two types.

See the respective **record definitions** (section [2.4](#Section_6fba03830d7a4c7aafe9642ff70cbd36)) for details on how these **records** are written relative to other **future records** in the **Chart Sheet Substream**.

#### 2.1.6.2 PivotTable

**PivotTables** (section [2.2.5](#Section_a5f57198f2af40b2ba07e4b1836d73f3)) implement the future record architecture as specified in section [2.1.6](#Section_b660b67822684414839ed1ae9a4e4e85). There are multiple classes of PivotTable records (section [2.2.5.1](#Section_ae3481143a7a4952baab4a7010a581c6)) represented using the **SXAddl record** (section [2.4.273.2](#Section_54370a1209c34832a72c37d317bf069e)). Each **record** (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)) in a class specifies a different piece of information for the part of the **PivotTable** (section 2.2.5) to which the **SXAddl record** applies. For more information about how the **SXAddl record** is used, read section [2.2.5.1.1](#Section_db61fa8bdb7b4e1c99615c2f3ed1c369).

### 2.1.7 Storages and Streams

This section specifies the [**storages**](#gt_63525252-3f66-4459-9b64-5b77f57b2f84), [**streams**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) and substreams of the Excel Binary File Format (.xls) file. Refer to section [2.1](#Section_2e6147d9e8ad48b09ff7bbfc51ca950d) for an understanding of storages, **streams**, and **substreams**.

If the stream is in [**Binary Interchange File Format (BIFF)**](#gt_f9965de8-cd18-4e26-a9c6-adfee3d67517)format, the record sequence is specified using [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) grammar.

#### 2.1.7.1 Component Object Stream (\001CompObj)

The Component Object Stream is specified in [[MS-OLEDS]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OLEDS%5d.pdf#Section_85583d21c1cf4afea35fd6701c5fbb6f) section [2.3.8](extcoll://142e0420-2f74-4ed9-829b-0b3d5a684d01).

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "*\001*CompObj", where *\001* is the character with the value 0x01, not the string literal "\001".

A file MUST contain at most one **Component O**bject **S**tream.

#### 2.1.7.2 Control Stream (Ctls)

An instance of the **Control Stream** specifies the [**OLE objects**](#gt_cdff9514-a3fb-4897-941d-4e99193a0096) and [**ActiveX controls**](#gt_f3dcc35f-8f80-474e-ac39-106a23f059c2) that use stream-based persistence.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "Ctls". A file MUST contain at most one **Control S**tream. An object persisted in this stream MUST have a corresponding **Obj** record (section [2.4.181](#Section_dd34df60825040a983a3911476a31ea7)) in a **worksheet substream** (section [2.1.7.20.5](#Section_f41c06f2905749a18c3fa4a4d211fc56)) with a **cmo.ot** field that equals 8 and a **pictFlags.fPrstm** field that equals 1. The **pictFmla.lPosInCtlsStm** and **pictFmla.cbBufInCtlsStrm** fields of the **Obj** record specify the location of the object data associated with that **Obj** record.

#### 2.1.7.3 Data Spaces Storage (\006DataSpaces)

The Data Spaces Storage is specified in [[MS-OFFCRYPTO]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OFFCRYPTO%5d.pdf#Section_3c34d72a1a614b52a893196f9157f083) section 2.1.

The name of this [**storage**](#gt_63525252-3f66-4459-9b64-5b77f57b2f84) MUST be "*\006*DataSpaces", where *\006* is the character with the value 0x06, not the string literal "\006". A file MUST contain at most one **Data Spaces Storage**.

#### 2.1.7.4 Document Summary Information Stream (\005DocumentSummaryInformation)

The Document Summary Information Stream is specified in [[MS-OSHARED]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OSHARED%5d.pdf#Section_d93502fa5b8f4f47a3fe5574046f4b8d) section 2.3.3.2.2.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "\005DocumentSummaryInformation", where \005 is the character with the value 0x05, not the string literal "\005". A file MUST contain at most one DocumentSummary **Information S**tream.

#### 2.1.7.5 Embedding Storage (MBD...)

An instance of the **Embedding Storage** specifies an embedded [**OLE object**](#gt_cdff9514-a3fb-4897-941d-4e99193a0096) or an [**ActiveX control**](#gt_f3dcc35f-8f80-474e-ac39-106a23f059c2) that uses [**storage**](#gt_63525252-3f66-4459-9b64-5b77f57b2f84)-based persistence.

The name of this storage MUST be "MBD" followed by eight hexadecimal digits uniquely identifying the [**embedded object**](#gt_708607be-8655-416e-93f3-b434e9ecbd56). An object persisted in an **Embedding Storage** MUST have a corresponding **Obj** (section [2.4.181](#Section_dd34df60825040a983a3911476a31ea7)) in a **worksheet substream** (section [2.1.7.20.5](#Section_f41c06f2905749a18c3fa4a4d211fc56)), **macro sheet substream** (section [2.1.7.20.4](#Section_0dddd943f77a4fc2bf92868acb4587f7)), or **dialog sheet substream** (section [2.1.7.20.2](#Section_da37feb48b9a462d87772a5fddd4866e)) with a **cmo.ot** field that equals 8, a **pictFlags.fPrstm** field that equals 0, and a **pictFlags.fDde** field that equals 0. The **pictFmla.lPosInCtlsStm** field of the **Obj** record specifies the name of the **Embedding Storage** that is associated with that **Obj** record.

#### 2.1.7.6 Encryption Stream (encryption)

The Encryption Stream is specified in [[MS-OFFCRYPTO]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OFFCRYPTO%5d.pdf#Section_3c34d72a1a614b52a893196f9157f083) section 2.3.5.4**.**

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "encryption". A file MUST contain at most one **Encryption S**tream.

#### 2.1.7.7 Link Storage (LNK...)

An instance of the **Link Storage** specifies a linked [**OLE object**](#gt_cdff9514-a3fb-4897-941d-4e99193a0096) and any default data or presentation caching established for it.

The name of this storage MUST be "LNK" followed by eight hexadecimal digits uniquely identifying the [**linked object**](#gt_cfc45e76-9219-4c47-9ef2-5832a172f795). An object persisted in a **Link Storage** MUST have a corresponding **Obj** (section [2.4.181](#Section_dd34df60825040a983a3911476a31ea7)) in a **worksheet substream** (section [2.1.7.20.5](#Section_f41c06f2905749a18c3fa4a4d211fc56)), **macro sheet substream** (section [2.1.7.20.4](#Section_0dddd943f77a4fc2bf92868acb4587f7)), or **dialog sheet substream** (section [2.1.7.20.2](#Section_da37feb48b9a462d87772a5fddd4866e)) with a **cmo.ot** field that equals 8, a **pictFlags.fPrstm** field that equals 0, and a **pictFlags.fDde** field that equals 1. Additionally, the **pictFmla.fmla** field of the **Obj** record (section 2.4.181) specifies a formula that refers to an **ExternName** (section [2.4.105](#Section_9549558214654bdd8183b16f8e8eaf74)) with a **body** field of type **ExternOleDdeLink** (section [2.5.107](#Section_9a6cd7f4944040248c31f8c239fedd9d)) with a **lStgName** field that specifies the name of the **Link Storage** that is associated with that **Obj** record.

#### 2.1.7.8 List Data Stream (List Data)

The List **Data S**tream specifies one or more Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) [**data source**](#gt_e091613c-6901-4874-b9b2-27273ead1075) definitions. Each data source definition is related to a Web-based data provider list.

The name of the [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "List Data". A file MUST contain at most one List **Data S**tream. Each data source definition is related to a **Feature11** record (section [2.4.114](#Section_4c78a7d3a3ff48e28e2cc89785519322)) or **Feature12** record (section [2.4.115](#Section_4c95f0ddd35745758b77792dbe2c0d5e)). The **lPosStmCache**, **cbStmCache** and **cchStmCache** fields of the **TableFeatureType** structure (section [2.5.266](#Section_0db919872a05497cac1cfbd588e10047)) specify the relationship between the **Feature11** record or **Feature12** record and the **List Data S**tream.

Each data source definition is specified as a compressed stream. The compression algorithm is specified in [[RFC1951]](https://go.microsoft.com/fwlink/?LinkId=90302). The stream is specified by the following [**XML schema**](#gt_bd0ce6f9-c350-4900-827e-951265294067):

<?xml version="1.0" encoding="utf-8"?>

<s:schema xmlns:rs="urn:schemas-microsoft-com:rowset"

xmlns:z="#RowsetSchema"

attributeFormDefault="unqualified"

elementFormDefault="qualified"

xmlns:s="http://www.w3.org/2001/XMLSchema">

<s:element name="LIST">

<s:complexType>

<s:attribute name="Version" type="s:string" use="required" />

<s:sequence>

<s:element name="LISTNAME" type="s:string" />

<s:element name="VIEWGUID" type="s:string" minOccurs="0"/>

<s:element name="LISTWEB" type="s:string" />

<s:element name="ROOTFOLDER" type="s:string" />

<s:element name="LISTSCHEMA">

<s:complexType mixed="true" >

<s:sequence>

<s:any />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="VIEWSCHEMA" minOccurs="0">

<s:complexType mixed="true" >

<s:sequence>

<s:any />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="LISTDATA" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="UPDATE">

<s:complexType>

<s:sequence>

<s:element name="Inserts" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="Updates" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="Deletes" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

</s:sequence>

</s:complexType>

</s:element>

<s:element name="LISTDATAFTR" type="s:string" />

</s:sequence>

</s:complexType>

</s:element>

</s:schema>

##### 2.1.7.8.1 Attributes

The following table specifies the attributes that can be used in the LIST element:

| Attribute | Description |
| --- | --- |
| Version | Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) server version from which the data was retrieved. MUST be less than or equal to 20 characters. |

##### 2.1.7.8.2 Elements

The following table specifies the [**XML schema definition (XSD)**](#gt_c7e91c99-e45a-44c2-a08a-c34f137a2cae) elements that are specific to the LIST element:

| Element | Description |
| --- | --- |
| **LISTNAME** (section [2.1.7.8.2.1](#Section_a2ce9676a4ff4916ad76f0288b8f28af)) | Display name or [**GUID**](#gt_f49694cc-c350-462d-ab8e-816f0103c6c1), as specified by [[MS-DTYP]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-DTYP%5d.pdf#Section_cca2742956894a16b2b49325d93e4ba2), of a Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) list. |
| **VIEWGUID** (section [2.1.7.8.2.2](#Section_0befe177e146420c83b2e950e89f7d70)) | GUID, as specified by [MS-DTYP], of a Web-based data provider [**list view**](#gt_1b49f76a-a3f7-4c2b-935e-2f764eafec71). |
| **LISTWEB** (section [2.1.7.8.2.3](#Section_273b3f763d40405ea77ec4c8fb67f006)) | [**Uniform Resource Identifier (URI)**](#gt_e18af8e8-01d7-4f91-8a1e-0fb21b191f95) of the Web-based data provider server from which the list was retrieved. |
| **ROOTFOLDER** (section [2.1.7.8.2.4](#Section_11af3867410f4d9f8ffc1b5d44b5434e)) | Path on the Web-based data provider server where the list is located. |
| **LISTSCHEMA** (section [2.1.7.8.2.5](#Section_922df830ac614fd7a8d97c8fb691fe45)) | [**XML schema**](#gt_bd0ce6f9-c350-4900-827e-951265294067) of the fields of the Web-based data provider list. |
| **VIEWSCHEMA** (section [2.1.7.8.2.6](#Section_2a2fb860f7ab4feab2f211e70d764f9e)) | XML schema of the Web-based data provider list view. |
| **LISTDATA** (section [2.1.7.8.2.7](#Section_03cb982d548044a1862edf25298d2df4)) | Specifies the data of the list. |
| **UPDATE** (section [2.1.7.8.2.8](#Section_8ee49ab1475b4c879e058aed4399920a)) | Specifies the inserted, deleted, and updated fields that were modified from the original [**data source**](#gt_e091613c-6901-4874-b9b2-27273ead1075) . |
| **LISTDATAFTR** (section [2.1.7.8.2.9](#Section_0c02ed6322d8426285ac6c626174896d)) | Validation footer used to validate the integrity of the data within the [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) . |

###### 2.1.7.8.2.1 LISTNAME

The **LISTNAME** element specifies a list on the Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) server. It MUST be the display name or the [**GUID**](#gt_f49694cc-c350-462d-ab8e-816f0103c6c1), as specified by [[MS-DTYP]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-DTYP%5d.pdf#Section_cca2742956894a16b2b49325d93e4ba2), of a [**list**](#gt_04ce231e-214c-44fd-b7ba-7cc19eee79bf). The **LISTNAME** element is specified as follows:

<s:element name="LISTNAME" type="s:string" />

###### 2.1.7.8.2.2 VIEWGUID

The **VIEWGUID** element specifies a list view on the server. It MUST be the [**GUID**](#gt_f49694cc-c350-462d-ab8e-816f0103c6c1), as specified by [[MS-DTYP]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-DTYP%5d.pdf#Section_cca2742956894a16b2b49325d93e4ba2), of a list view. The **VIEWGUID** element is specified as follows:

<s:element name="VIEWGUID" type="s:string" minOccurs="0"/>

When the **VIEWGUID** element is not present or the value of the **VIEWGUID** element is empty, the current [**data source**](#gt_e091613c-6901-4874-b9b2-27273ead1075) definition within the **List Data Stream** (section [2.1.7.8](#Section_914f09bd8c944c099e8631dfe058f037)) MUST retrieve data from the default list view of the list on the server.

###### 2.1.7.8.2.3 LISTWEB

The **LISTWEB** element specifies, as a [**URI**](#gt_e18af8e8-01d7-4f91-8a1e-0fb21b191f95), the name of the Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) server from which the list data was retrieved. MUST be a valid URI, as specified by [[RFC3986]](https://go.microsoft.com/fwlink/?LinkId=90453). The **LISTWEB** element is specified as follows:

<s:element name="LISTWEB" type="s:string"/>

###### 2.1.7.8.2.4 ROOTFOLDER

The **ROOTFOLDER** element specifies the path from the **LISTWEB** [**URI**](#gt_e18af8e8-01d7-4f91-8a1e-0fb21b191f95) where the Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) list from which the data was retrieved is located. When concatenated to the end of the **LISTWEB** field value, the result MUST be a valid URI, as specified by [[RFC3986]](https://go.microsoft.com/fwlink/?LinkId=90453). The **ROOTFOLDER** element is specified as follows:

<s:element name="ROOTFOLDER" type="s:string"/>

###### 2.1.7.8.2.5 LISTSCHEMA

The **LISTSCHEMA** element specifies the fields of the Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) list from which the data was retrieved, along with additional information. The additional information includes [**regional settings**](#gt_ede60f7f-1131-4845-800b-b6848215e015) and whether attachments are enabled. The **LISTSCHEMA** element is specified as follows:

<s:element name="LISTSCHEMA" minOccurs="0">

<s:complexType mixed="true" >

<s:sequence>

<s:any />

</s:sequence>

</s:complexType>

</s:element>

The **LISTSCHEMA** element is further specified in [[MS-LISTSWS]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-LISTSWS%5d.pdf#Section_30b364cc38374e839ce81963292e2ee5) section 2.2.4.12.

###### 2.1.7.8.2.6 VIEWSCHEMA

The **VIEWSCHEMA** element specifies the list view of the Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) list from which the data was retrieved. The **VIEWSCHEMA** element is specified as follows:

<s:element name="VIEWSCHEMA" minOccurs="0">

<s:complexType mixed="true" >

<s:sequence>

<s:any />

</s:sequence>

</s:complexType>

</s:element>

The **VIEWSCHEMA** element is further specified in [[MS-VIEWSS]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-VIEWSS%5d.pdf#Section_84e77d68e69244ba9e4e1d08abcb2d99) section 2.2.

###### 2.1.7.8.2.7 LISTDATA

The **LISTDATA** element specifies the data retrieved from the Web-based [**data provider**](#gt_33fa4cdc-ae58-4a6c-8111-31377e1d292e) list. The **LISTDATA** element is specified as follows:

<s:element name="LISTDATA">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

The referenced **rs:data** type is specified in [[MS-PRSTFR]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-PRSTFR%5d.pdf#Section_7e50a09b3cf44bd9ae0c3eccddabe363) section 2.2. Additional information and examples is also specified in [[MS-LISTSWS]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-LISTSWS%5d.pdf#Section_30b364cc38374e839ce81963292e2ee5) section 3.1.4.21.2.2.

###### 2.1.7.8.2.8 UPDATE

The **UPDATE** element specifies the inserted, deleted, and updated fields that were modified from the data specified in **LISTDATA** (section [2.1.7.8.2.7](#Section_03cb982d548044a1862edf25298d2df4)). The definition of the **UPDATE** element is as follows:

<s:element name="UPDATE">

<s:complexType>

<s:sequence>

<s:element name="Inserts" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="Updates" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

<s:element name="Deletes" minOccurs="0">

<s:complexType>

<s:sequence>

<s:element ref="rs:data" />

</s:sequence>

</s:complexType>

</s:element>

</s:sequence>

</s:complexType>

</s:element>

The **UPDATE** element is a parent element, which contains 3 optional child elements: **Inserts**, **Updates** and **Deletes**. **Inserts** specifies rows that were added locally, and are not synchronized with the [**data source**](#gt_e091613c-6901-4874-b9b2-27273ead1075). **Updates** specifies rows that were modified locally, and that are not synchronized with the data source. **Deletes** specifies rows that were deleted locally, and that are not synchronized with the data source. The referenced **rs:data** type for each of the elements is specified in [[MS-PRSTFR]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-PRSTFR%5d.pdf#Section_7e50a09b3cf44bd9ae0c3eccddabe363) section 2.2. Additional information and examples is also specified in [[MS-LISTSWS]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-LISTSWS%5d.pdf#Section_30b364cc38374e839ce81963292e2ee5) section 3.1.4.21.2.2.

###### 2.1.7.8.2.9 LISTDATAFTR

The **LISTDATAFTR** element specifies elements used to validate the integrity of the data within the [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6). It contains a sequence of signed integers which specify the [**MD5**](#gt_1535fdac-8d46-4605-96af-252907c4a593) [**hash**](#gt_b7e2b611-0af5-4fec-8af2-3f9ce7bad205) of each **rs:data** within the stream. The definition of the **LISTDATAFTR** element is a follows:

<s:element name="LISTDATAFTR" type="s:string" />

The signed integers specified in the string data MUST be separated by the ";#" separator. There MUST be an MD5 hash, as specified by [[RFC1321]](https://go.microsoft.com/fwlink/?LinkId=90275), for the **LISTDATA** element, the **UPDATE.Inserts** element, the **UPDATE.Updates** element and the **UPDATE.Deletes** element. The MD5 hash MUST appear in the following order: **LISTDATA** element, the **UPDATE.Inserts** element, the **UPDATE.Updates** element and the **UPDATE.Deletes** element. If an element is not present in the stream, the corresponding MD5 hash MUST NOT be present.

#### 2.1.7.9 Office Data Store Storage (MsoDataStore)

The **Office Data Store Storage** is specified in [[MS-OSHARED]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OSHARED%5d.pdf#Section_d93502fa5b8f4f47a3fe5574046f4b8d) section 2.3.6.

The name of this storage MUST be "MsoDataStore". A file MUST contain at most one **Office Data Store S**torage.

#### 2.1.7.10 Office Toolbars Stream (XCB)

The **Office Toolbars Stream** specifies the custom toolbars attached to the file.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "XCB". A file MUST contain at most one **Office Toolbars S**tream. This stream MUST only contain a single **CTBWRAPPER** structure (section [2.6.1](#Section_facb605c55f5443a985c1c6cafca8f12)).

Parts of this stream are specified in [[MS-OSHARED]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OSHARED%5d.pdf#Section_d93502fa5b8f4f47a3fe5574046f4b8d) section 2.3.1. Refer to [MS-OSHARED] section 1.3 for a diagram that illustrates an example of the XCB binary stream with its toolbar customization structures.

Following is the record sequence [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) for the XCB binary stream:

XCB = CTBWRAPPER

CTBWRAPPER = CTBS 1\*CTB

For more information about the **CTBWRAPPER** structure, see section 2.6.1. For more information about the **CTBS** structure, see section [2.6.2](#Section_71f48d71a605454597653895d5d70d7f). For more information about the **CTB** structure, see section [2.6.3](#Section_bdffb4739783454d95545ea9a7b3c5ce).

#### 2.1.7.11 OLE Stream (\001Ole)

The OLE Stream is specified in [[MS-OLEDS]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OLEDS%5d.pdf#Section_85583d21c1cf4afea35fd6701c5fbb6f) section [2.3.3](http://msdn.microsoft.com/en-us/library/e0dc105e-77f1-4072-a938-9aa516dc43e9/).

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "*\001*Ole", where *\001* is the character with the value 0x01, not the string literal "\001".

A file MUST contain at most one **OLE Stream**.

#### 2.1.7.12 Pivot Cache Storage (\_SX\_DB\_CUR)

The **Pivot Cache Storage** specifies zero or more streams, each of which specify a **PivotCache** (section [2.2.5.3](#Section_a8496208d8334015938a56a0e97f9f0e)) for a **PivotTable** (section [2.2.5](#Section_a5f57198f2af40b2ba07e4b1836d73f3)). The name of each [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be unique within the storage, and the name MUST be a four digit hexadecimal number stored as text.

The name of this storage MUST be "\_SX\_DB\_CUR". A file MUST contain at most one **Pivot Cache Storage**.

The number of **FDB** rules that occur MUST be equal to the value of **cfdbTot** in the **SXDB record** (section [2.4.275](#Section_f0e04937a8cf4a1c891bea1fa4b85fdc)).

Record sequence [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) for each stream:

PIVOTCACHE = SXDB [SXDBEx](#Section_69f27aaef85e487eb3573b64491a9520) \*SXFORMULA \*FDB \*DBB [EOF](#Section_012176fe5802423b913578e22642456b)

FDB = [SXFDB](#Section_e410a60fad0340c7a4fc9e9932339abe) [SXFDBType](#Section_01791f7a870b4ce89d1621f77245c4b5) [SXFMLA / (\*GRPSXOPER [SXRANGE / \*([SxIsxoper](#Section_1847f42114de45f19663010ed231894b) \*[Continue](#Section_999fae21d3d942e88290639782460c67))])] \*SRCSXOPER

DBB = [[SXDBB](#Section_e38eeddd951449fd83398938219fcbe3)] \*SXOPER

SXFORMULA = SXFMLA PIVOTRULE [SXFormula](#Section_b7c4ebe61ade458fb78ca1d05ada9862)

SXFMLA = [SxFmla](#Section_d327ce82d6584fcc927bd3f4edcc0232) \*([SxName](#Section_2ea8a7fb02fa46c6a44dfe7c2ce44827) \*[SXPair](#Section_18a89a16eb2a4a7f82767f1b187e83e3))

GRPSXOPER = SXOPER

SRCSXOPER = SXOPER

SXOPER = [SxNil](#Section_f06cf2583c584098b390b46d6e28f059) / [SXNum](#Section_e16fd21368b54566886499600b002f4d) / [SxBool](#Section_e609199c639f4159a5c3a771f30a4c7c) / [SxErr](#Section_7e0338b076694531abc4047c3307f8ad) / [SXString](#Section_0b135d8b213f4d54970bd7a934a79f36) / [SXDtr](#Section_5c7ffeb26d504ee4b415ed075f9bf158)

SXRANGE = [SXRng](#Section_6f43f7d653fb4e2fa35a07b7dc56fa8f) (3SXNum / (2SXDtr [SXInt](#Section_0c0af3ebb73144c4b46e07b6e7f7150d)))

#### 2.1.7.13 Protected Content Stream (\009DRMContent)

The **Protected Content Stream** is specified in [[MS-OFFCRYPTO]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OFFCRYPTO%5d.pdf#Section_3c34d72a1a614b52a893196f9157f083) section 2.2.10.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "*\009*DRMContent", where *\009* is the character with the value 0x09, not the string literal "\009". A file MUST contain at most one **Protected Content S**tream.

#### 2.1.7.14 Revision Stream (Revision Log)

An instance of the **Revision Stream** specifies the **revision logs** (section [2.2.11.2](#Section_2cbd26e86f7e4195ada414c8b7e595b8)) and **revision records** (section [2.2.11.3](#Section_9e91e8bce4f249b897d4741481349d1b)) for a **shared workbook** (section [2.2.11](#Section_e45a62c4490f4304a09668908b57dacc)).

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "Revision Log". A file MUST contain at most one **Revision Stream**. The **Revision Stream** MUST exist if the [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe) is a **shared workbook** (section 2.2.11).

Record sequence [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

REVISION = [RRDInfo](#Section_7605dea102c9430c8038ae56e9497315) [FileLock](#Section_a710a2aeb88944d5968f9c21c42a8076) [UsrExcl](#Section_5b35e115e4e64dfc914868fa02f7a4e9) \*(HEADER \*(RENSHEET / INSDEL / CONFLICT / INSDELSH / CHGCELL / MOVE / FORMAT / AUTOFMT / DEFNAME / VIEW / NOTE / TRASHQTFIELD)) [EOF](#Section_012176fe5802423b913578e22642456b)

HEADER = [RRDHead](#Section_3ada910097fd42adbebcfdacc9a44542) [RRTabId](#Section_e1b235b2c9554d38b7adfab84d93d4bc)

RENSHEET = [RRDRenSheet](#Section_f4f9c63e14184bb3b3b24fc7cf0803fe)

INSDEL = INS / DEL

INS = [RRDInsDel](#Section_fe37df682d0e4d89a213cc4ebd9ac138) \*(CHGCELL / FORMAT)

DEL = [RRDInsDelBegin](#Section_1aac650e041f45a68df0641610a3d86c) RRDInsDel \*(CHGCELL / FORMAT) [RRDInsDelEnd](#Section_70539822f7634024b8635ab70e777c5f)

CONFLICT = [RRDConflict](#Section_7026f410d71c474ab133aabdb636e112)

INSDELSH = [RRInsertSh](#Section_57b2d502ae46461f9156ad7868a57f9d)

CHGCELL = [RRDChgCell](#Section_f7c1ffa25ac54cccb1e941d556ff4b75) \*[Continue](#Section_999fae21d3d942e88290639782460c67) \*[RRDRstEtxp](#Section_7851645890124f128987457ffb1272f8)

MOVE = [RRDMoveBegin](#Section_036337ed79274ae9ad51a49be930ade7) [RRDMove](#Section_335c3e38c8b6460298238e3e02eae66f) \*(CHGCELL / FORMAT) [RRDMoveEnd](#Section_09a9b9d9db234b2b8a22180d91031d99)

FORMAT = [RRFormat](#Section_c5933975af274629a6c518055a26684c)

AUTOFMT = [RRAutoFmt](#Section_65dea3f4d61b46e4b6739e7d95559f35)

DEFNAME = [RRDDefName](#Section_3393f8cdcedc46cababa3cf614f8a77a)

VIEW = [RRDUserView](#Section_b1f25beb8ebd439a8298d89f976adba4)

NOTE = [Note](#Section_0e5d02566d864628a6face2e948673b0)

TRASHQTFIELD = [RRDTQSIF](#Section_ed21ae3595354dec88f1c44ed1967614)

#### 2.1.7.15 Signatures Stream (\_signatures)

The **Signatures Stream** is specified in [[MS-OFFCRYPTO]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OFFCRYPTO%5d.pdf#Section_3c34d72a1a614b52a893196f9157f083) section 2.5.1.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "\_signatures". A file MUST contain at most one **Signatures S**tream[<1>](#Appendix_A_1" \o "Product behavior note 1).

When generating the **Signature** value, as specified in [MS-OFFCRYPTO] section 2.5.1.5, the record data, as specified in section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388), of the **WriteAccess record** (section [2.4.349](#Section_231de348d93c4be3a12ba19173a45d69)) in the **Globals Substream** (section [2.1.7.20.3](#Section_ca4c174887294a93abb94602b3a01fb1)) is skipped.

#### 2.1.7.16 Summary Information Stream (\005SummaryInformation)

The **Summary Information Stream** is specified in [[MS-OSHARED]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OSHARED%5d.pdf#Section_d93502fa5b8f4f47a3fe5574046f4b8d) section 2.3.3.2.1.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "*\005*SummaryInformation", where *\005* is the character with the value 0x05, not the string literal "\005". A file MUST contain at most one Summary **Information S**tream.

#### 2.1.7.17 User Names Stream (User Names)

The **User Names Stream** specifies a **user log** (section [2.2.11.1](#Section_df0e3725a65f459daa1c011679c5b904)) for a **shared workbook** (section [2.2.11](#Section_e45a62c4490f4304a09668908b57dacc)).

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "User Names". The presence of the **User Names Stream** indicates the [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe) is a **shared workbook** (section 2.2.11). A file MUST contain at most one **User Names Stream**.

Record sequence [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

USERNAMES = [CUsr](#Section_a51b97cb3c2644aa80180580808050da) [UsrChk](#Section_74edaf402fd84123859cafd90492d563) [CbUsr](#Section_f396f9f2ffa64bb79d995067accfb5c9) [BCUsrs](#Section_08373fa990bd4b47b52de144ba0c7e68) \*[UsrInfo](#Section_0c543b9fc6d441d8ad3a9332486c37fc)

#### 2.1.7.18 VBA Storage (\_VBA\_PROJECT\_CUR)

The **VBA Storage** is specified in [[MS-OVBA]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OVBA%5d.pdf#Section_575462babf6741909facc275523c75fc).

The name of this storage MUST be "\_VBA\_PROJECT\_CUR". A file MUST contain at most one **VBA S**torage.

#### 2.1.7.19 Viewer Content Stream (\009DRMViewerContent)

The **Viewer Content Stream** is specified in [[MS-OFFCRYPTO]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OFFCRYPTO%5d.pdf#Section_3c34d72a1a614b52a893196f9157f083) section 2.2.11.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "*\009*DRMViewerContent", where *\009* is the character with the value 0x09, not the string literal "\009". A file MUST contain at most one **Viewer Content S**tream.

#### 2.1.7.20 Workbook Stream (Workbook)

The **Workbook Stream** specifies global properties and data for a [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe), as well as the [**sheets (1)**](#gt_0b356926-f9cb-4dc2-a859-71441d62503d) that constitute 构成a workbook.

The name of this [**stream**](#gt_f3529cd8-50da-4f36-aa0b-66af455edbb6) MUST be "Workbook". A file MUST contain exactly one **Workbook Stream**, which consists of several 几个substreams. There MUST be exactly one **substream** (section [2.1.7.20.3](#Section_ca4c174887294a93abb94602b3a01fb1)), and the **substream** MUST be the first substream to appear 出现in the **Workbook Stream**, which MUST be followed by one or more of the following substreams:

 **Chart Sheet Substream** (section [2.1.7.20.1](#Section_732ff614d939416bb7c76d983471ff11))

 **Dialog Sheet Substream** (section [2.1.7.20.2](#Section_da37feb48b9a462d87772a5fddd4866e))

 **Macro Sheet Substream** (section [2.1.7.20.4](#Section_0dddd943f77a4fc2bf92868acb4587f7))

 **Worksheet Substream** (section [2.1.7.20.5](#Section_f41c06f2905749a18c3fa4a4d211fc56))

##### 2.1.7.20.1 Chart Sheet Substream

The **Chart Sheet Substream** specifies either a separate [**chart sheet**](#gt_da561b7b-c629-4cd8-bfaa-6e62471d9e83) that contains a single chart, or an **embedded** chart **object** (section [2.2.3.1](#Section_2c90d75bc92645aa8ff29d4483f51831)) contained within a **worksheet** (section [2.1.7.20.5](#Section_f41c06f2905749a18c3fa4a4d211fc56)) or **macro sheet** (section [2.1.7.20.4](#Section_0dddd943f77a4fc2bf92868acb4587f7)).

If a record in the [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf) grammar for this substream is one of the following: **Font** (section [2.4.122](#Section_291a910ccb694799875ea201845d4fd1)), **Continue** (section [2.4.58](#Section_999fae21d3d942e88290639782460c67)), **LineFormat** (section [2.4.156](#Section_1bff256238664b958a6bf3fea1659f6d)), **AreaFormat** (section [2.4.3](#Section_affb9fe34721495a9e5351c7d3c65480)), **SeriesText** (section [2.4.254](#Section_e5d661c4bd7e4664a848495354b9fc3b)), **DefaultText** (section [2.4.88](#Section_cda28b8e07614f108b656c38368f791d)), **Text** (section [2.4.324](#Section_362cfe7d650949fb81402ad59c16b4c4)), **FontX** (section [2.4.123](#Section_8c065ab610d44029a20dac422620eed2)), **ObjectLink** (section [2.4.182](#Section_50f2d49d1e5f416b866f057e0ab23ba9)), **Frame** (section [2.4.128](#Section_0cb3e202342740b4b93b277c0bd977ff)), **Begin** (section [2.4.17](#Section_52d0d2c76cc540c4adf3aea158411ef3)), **End** (section [2.4.99](#Section_abe8fd1db6a847b8864052ba75a76f5c)), **PicF** (section [2.4.193](#Section_04c14ff7f31f4c5b9aa68dfd28844710)), **Pos** (section [2.4.201](#Section_b2311d215bad4525b759cacc13d394cf)), **AlRuns** (section [2.4.1](#Section_8ffd645fc00848d8aae1adbd10927e6d)), **BRAI** (section [2.4.29](#Section_c4e36e616c174a75b414f33803c7456b)), **Fbi** (section [2.4.109](#Section_f3d70b00be314223b3ec717dfab54ec1)), or **GelFrame** (section [2.4.131](#Section_fd655637a8e94d4e85880a02afc99fae)), and is in a collection specified by **StartObject** (section [2.4.267](#Section_2f7fb73d86f64f3d8f1c3b757ea8c0f6)) and **EndObject** (section [2.4.101](#Section_bb3ce42b14974ce2b58d973549813772)), that record MUST be replaced by an **FrtWrapper** record (section [2.4.130](#Section_d60fb31a5e0f4b9a8373546d1ed71fd9)) and the **wrappedRecord** field of that **FrtWrapper** record MUST specify the record that is replaced. **StartBlock** record (section [2.4.266](#Section_79f4d08551a0473c8b0f8d920026f889)) and **EndBlock** record (section [2.4.100](#Section_f1e06d16dd094706bc4982b3ee9ed638)) pairs and **ChartFrtInfo** (section [2.4.49](#Section_178fb12563ae4c24b7db918713698b2f)) are omitted from the ABNF grammar. See section [2.1.6.1](#Section_0d96d51a09bd44ddbb691541de053776) and the respective record specifications for more information.

Record sequence[<2>](#Appendix_A_2" \o "Product behavior note 2) ABNF:

CHARTSHEETCONTENT = [[WriteProtect](#Section_8d791d7b82f242599230ea58afe5fd07)] [[SheetExt](#Section_780be3426fd04265aaeba51f422a9c08)] [[WebPub](#Section_55e5f315770d494d85bbb2a4596e0beb)] \*[HFPicture](#Section_20401a12d4a245a9ba65d4d12e82010e) PAGESETUP [PrintSize](#Section_67d08dd9153e476385198354a5ef3ace) [[HeaderFooter](#Section_5d3587f3baef46abb2cf1c57e8b3dccf)] [BACKGROUND] \*Fbi \*[Fbi2](#Section_eb7675c3f43743508b53c75d88d72c06) [[ClrtClient](#Section_b8ac373afef94c18bbb49cfa9cafb924)] [PROTECTION] [[Palette](#Section_bf61236aa89e4425967934992c61ae5e)] [[SXViewLink](#Section_e729a06cb73f4c01a57609c193a2b1a8)] [[PivotChartBits](#Section_ba79170d6be34c788d47d7e4e26032a5)] [[SBaseRef](#Section_ffcf01ed6fb7418eb9e9ce9828dae568)] [[MsoDrawingGroup](#Section_43e0d49645db4f19bb33bcb2464aa83c)] OBJECTS [Units](#Section_46954c4fe09342e997501ce177dd6379) CHARTFOMATS SERIESDATA \*WINDOW \*CUSTOMVIEW [[CodeName](#Section_848c71f86ad248e885724daef6e58f88)] [CRTMLFRT] [EOF](#Section_012176fe5802423b913578e22642456b)

CHARTSHEET = [BOF](#Section_4d6a3d1ed7c5405fbbaed01e9cb79366) CHARTSHEETCONTENT

CHARTFOMATS = [Chart](#Section_8f56b001f57445e0932f84cf30408323) Begin \*2FONTLIST [Scl](#Section_2cdcac9bf00444cb82e1d592500ffef8) [PlotGrowth](#Section_38ca32ff60c0449ca5e97a40b3f95185) [FRAME] \*SERIESFORMAT \*SS [ShtProps](#Section_8de5048d5e784a8da3288a8293e1fe40) \*2DFTTEXT [AxesUsed](#Section_398ee70d694840338507cf76ce9e4585) 1\*2AXISPARENT [[CrtLayout12A](#Section_c8859c5c5bc14de3810f50d3c176ab51)] [DAT] \*ATTACHEDLABEL [CRTMLFRT] \*([[DataLabExt](#Section_5c03a5117d77474cac73ee797c1ff9b3) StartObject] ATTACHEDLABEL [EndObject]) [TEXTPROPS] \*2CRTMLFRT End

FONTLIST = [FrtFontList](#Section_417cb30701994f86baf86daa77359f28) StartObject \*(Font [Fbi]) EndObject

AXISPARENT = [AxisParent](#Section_5948f3079c624304ae7331bdecd36f9f) Begin Pos [AXES] 1\*4CRT End

SERIESDATA = [Dimensions](#Section_5fd3837c9f3d49528a85ad93ddb37ced) 3([SIIndex](#Section_b3b98d4884a44a76b8c6e10b0c7a1e60) \*([Number](#Section_a40c74c63df44e819a4385521cc92c0a) / [BoolErr](#Section_eb6cc28556634859982b6662ee116614) / [Blank](#Section_2918f1db545e432a8f57599c44251f07) / [Label](#Section_5e14d0af54664709a243868a887351f2)))

AXES = [IVAXIS DVAXIS [SERIESAXIS] / DVAXIS DVAXIS] \*3ATTACHEDLABEL [[PlotArea](#Section_95e026c97aa94376ba7c9c67a2a9c7e2) FRAME]

IVAXIS = [Axis](#Section_33155f3a9afe44a493d178af188f77f6) Begin [[CatSerRange](#Section_07bdb87444424468a7e2bd166769e6a9)] [AxcExt](#Section_91c0fd3c16e7438ebfc196b738535991) [[CatLab](#Section_ec1fd084707a40288bddb45799813f19)] AXS [CRTMLFRT] End

DVAXIS = Axis Begin [[ValueRange](#Section_8a75a0b49985443aa154308516fa359a)] [AXM] AXS [CRTMLFRT] End

SERIESAXIS = Axis Begin [CatSerRange] AXS [CRTMLFRT] End

CRT = [ChartFormat](#Section_919bca437a814203b9b9b12e4315d5af) Begin ([Bar](#Section_5c1879733f114207b9f440e583715357) / [Line](#Section_fec395304bd54a469cec5e4ffae452c9) / ([BopPop](#Section_810df3fd650345459bf509ab2061818a) [[BopPopCustom](#Section_7ee5fcfc122b4f8d8eec5858642fbf30)]) / [Pie](#Section_4f749e5278ea4ad4b7278dedec7ad359) / [Area](#Section_43a435d733b841d5b6e6bc0bb9fb9f4a) / [Scatter](#Section_25feb64bec3e4c3a9c488ea25e0df8b5) / [Radar](#Section_70d7a9ee374a4bd2a4d5d9a73e9d6263) / [RadarArea](#Section_1a4e9fc7c9c1421a807b17dfc972c236) / [Surf](#Section_0606dd5e8f0040698dbf4663905ce45a)) [CrtLink](#Section_241e9da454a147e6a66f5541fdfe3065) [[SeriesList](#Section_da970b89b0bd4060af1cd9b6fd33a5f7)] [[Chart3d](#Section_caefd44b1e5542acaed4c475442be33f)] [LD] [2DROPBAR] \*4([CrtLine](#Section_c267eaa5224143d2bfebf851418b52ee) LineFormat) \*2DFTTEXT [[DataLabExtContents](#Section_9e2876c62d3049a7ac7eff01315e1418)] [SS] \*4SHAPEPROPS End

LD = [Legend](#Section_03d359d915f94e7a8ad1d7b741ed2e21) Begin Pos ATTACHEDLABEL [FRAME] [[CrtLayout12](#Section_ff69b6f84d7943c5a983a1c8b9496665)] [TEXTPROPS] [CRTMLFRT] End

SERIESFORMAT = [Series](#Section_d6eec0192d634c1e8080442af941b462) Begin 4AI \*SS ([SerToCrt](#Section_34175aa2c0db4e4cbe2ebbe5abf61364) / ([SerParent](#Section_30274589f3324004b09deb47856e6858) ([SerAuxTrend](#Section_c3ee0bb15a2145178ddda6c06c20e927) / [SerAuxErrBar](#Section_13a7411278424d6fab97de3123ff4199)))) \*([LegendException](#Section_8c4e0829c6ee4b34b8affb95f9d70c86) [Begin ATTACHEDLABEL [TEXTPROPS] End]) End

FRAME = Frame Begin LineFormat AreaFormat [GELFRAME] [SHAPEPROPS] End

AI = BRAI [SeriesText]

ATTACHEDLABEL = Text Begin Pos [FontX] [AlRuns] AI [FRAME] [ObjectLink] [DataLabExtContents] [CrtLayout12] [TEXTPROPS] [CRTMLFRT] End

SS = [DataFormat](#Section_02773c0de16b4d6d82f473c8fd18868e) Begin [[Chart3DBarShape](#Section_890f01ed66bc47238f32328364b89137)] [LineFormat AreaFormat [PieFormat](#Section_b18b6e09e8e8497da93cd828aab9b4e7)] [[SerFmt](#Section_c725d61f3ae6480aba4886eb61f14070)] [GELFRAME] [[MarkerFormat](#Section_28ad6229e22f477dbc1403cd93220277)] [[AttachedLabel](#Section_5ffc1bdab83b4d53a8604cf54f24cd75)] \*2SHAPEPROPS [CRTMLFRT] End

SHAPEPROPS = [ShapePropsStream](#Section_d4c083e5e7b54728b145d1735485616e) \*[ContinueFrt12](#Section_e6527fe5f420420fad3fe5a242d04eee)

TEXTPROPS = ([RichTextStream](#Section_6ef21bafca4942c39ed1d4ff66ab49b9) / [TextPropsStream](#Section_8cdced5f669142339dc3b96e3e1cf3b1)) \*ContinueFrt12

AXS = [[IFmtRecord](#Section_d38bc2a12bdf416485f584078b31d5d2)] [[Tick](#Section_94946c96e4e14e9eb7fccc959c36a030)] [FontX] \*4([AxisLine](#Section_d59921ddf25e45729d6adee440bb2d67) LineFormat) [AreaFormat] [GELFRAME] \*4SHAPEPROPS [TextPropsStream \*ContinueFrt12]

DFTTEXT = [DataLabExt StartObject] DefaultText ATTACHEDLABEL [EndObject]

DROPBAR = [DropBar](#Section_898e82b2b4534180881a2b9df9eeb0eb) Begin LineFormat AreaFormat [GELFRAME] [SHAPEPROPS] End

AXM = [YMult](#Section_6d0a1b34ab5a450fb4a5f06d9d54ec55) StartObject ATTACHEDLABEL EndObject

DAT = [Dat](#Section_9405c76f5e904146a7894910a5f58534) Begin LD End

GELFRAME = 1\*2GelFrame \*Continue [PICF]

PICF = Begin PicF End

CRTMLFRT = [CrtMlFrt](#Section_4bbe91b24c4f4fa692ee49d35608566c) \*[CrtMlFrtContinue](#Section_5c6756e59b7840c4a6cdaf05aa79af69)

For ABNF rules not listed here, see section [2.1.7.20.6](#Section_a1b3d8b4744241fd9c57bbd2a6394082). Within the sequence of records specified by the **CUSTOMVIEW** rule (section 2.1.7.20.6) specified in section 2.1.7.20.6, the **Selection** (section [2.4.248](#Section_00131cedfe32403b9be4d9c234fde7d4)), **HorizontalPageBreaks** (section [2.4.142](#Section_a57df9916148411f96629c9857d72e1a)), and **VerticalPageBreaks** (section [2.4.343](#Section_509d916129e1400695cc40e26acb7703)) records MUST NOT be present.

##### 2.1.7.20.2 Dialog Sheet Substream

The **Dialog Sheet Substream** specifies a [**dialog sheet**](#gt_293d2e0c-de3d-4808-99fc-99fa824158a8).

Record sequence[<3>](#Appendix_A_3" \o "Product behavior note 3)[<4>](#Appendix_A_4" \o "Product behavior note 4) [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

DIALOGSHEETCONTENT = [[Uncalced](#Section_2bcabcfa10544ae2ab3c63a021ae0a14)] [Index](#Section_67c2092204274c2d96cc2267d3f09e8c) GLOBALS PAGESETUP [[HeaderFooter](#Section_5d3587f3baef46abb2cf1c57e8b3dccf)] \*BIGNAME [DIALOGPROTECTION] [DefColWidth](#Section_30dc2bcb4f9943a3a745fbc54b5b8161) [Dimensions](#Section_5fd3837c9f3d49528a85ad93ddb37ced) OBJECTS \*[HFPicture](#Section_20401a12d4a245a9ba65d4d12e82010e) \*[Note](#Section_0e5d02566d864628a6face2e948673b0) 1\*DIALOGWINDOW \*DIALOGCUSTOMVIEW [[CodeName](#Section_848c71f86ad248e885724daef6e58f88)] [[SheetExt](#Section_780be3426fd04265aaeba51f422a9c08)] \*RECORD12 [EOF](#Section_012176fe5802423b913578e22642456b)

DIALOGSHEET = [BOF](#Section_4d6a3d1ed7c5405fbbaed01e9cb79366) DIALOGSHEETCONTENT

DIALOGPROTECTION = [[Protect](#Section_b32708d535d240059488abbfc319ae1f)] [[Password](#Section_1d0e4db7cc6a4143b72c27d972f72f05)]

DIALOGWINDOW = [Window2](#Section_80576ec8e7f04c9990a7d850587bc97b) [[Pane](#Section_9dcaa80b63154aeaa802872ccd4e8d1b)] \*[Selection](#Section_00131cedfe32403b9be4d9c234fde7d4)

DIALOGCUSTOMVIEW = [UserSViewBegin](#Section_c75bbfe0f69546109d1eb7d93fc25fe9) \*Selection [[HorizontalPageBreaks](#Section_a57df9916148411f96629c9857d72e1a)] [[VerticalPageBreaks](#Section_509d916129e1400695cc40e26acb7703)] [[Header](#Section_b64cf6b894724f979a69d839f0fa1089)] [[Footer](#Section_10606f3c5e9b4e7d8bd97a28489fea4d)] [[HCenter](#Section_fd61eeaff759424580205232dc61e69e)] [[VCenter](#Section_320e7b0b8c6f46ac8e7e35947f0d16f7)] [[LeftMargin](#Section_0c67a571c2c14596b119270c45a7037d)] [[RightMargin](#Section_ef3b757016a54806a2956fee409fb59a)] [[TopMargin](#Section_ecfc8b81a8884e258632a9edd66e106c)] [[BottomMargin](#Section_a0fa5550116c4768b0d19ab0887d3f60)] [[Pls](#Section_baf5f46f07204cada4c551094868d90a)] [[Setup](#Section_23642d03de0e4a7f94dac2e594020bf2)] [[PrintSize](#Section_67d08dd9153e476385198354a5ef3ace)] [HeaderFooter] [UserSViewEnd](#Section_61a01e89f0a44900b213eeea89f1db0b)

OBJECTS = \*(MSODRAWING \*(TEXTOBJECT / OBJ)) [[MsoDrawingSelection](#Section_872cf7cd330546c399e31c2c520c0947)]

MSODRAWING = [MsoDrawing](#Section_1b0b0ea35e1d41ce8e79e27f1041331e) \*[Continue](#Section_999fae21d3d942e88290639782460c67)

OBJ = [Obj](#Section_dd34df60825040a983a3911476a31ea7) \*Continue

TEXTOBJECT = [TxO](#Section_638c08e629424783b71b144ccf758fc7) \*Continue

For ABNF rules not listed here, see section [2.1.7.20.6](#Section_a1b3d8b4744241fd9c57bbd2a6394082).

##### 2.1.7.20.3 Globals Substream

The **Globals Substream** specifies global properties and data in a [**workbook**](#gt_343c4660-90e1-4d86-b9cc-5007075d9dfe).

There MUST be exactly one **Globals Substream** in a **Workbook Stream** (section [2.1.7.20](#Section_f682f4b08c6b444e83f852d156f1e8ba)), and the **Globals Substream** MUST be the first substream in the **Workbook Stream**.

Record sequence[<5>](#Appendix_A_5" \o "Product behavior note 5)[<6>](#Appendix_A_6" \o "Product behavior note 6) [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

WORKBOOKCONTENT = [[WriteProtect](#Section_8d791d7b82f242599230ea58afe5fd07)] [[FilePass](#Section_cf9ae8d54e8c40a295f13b31f16b5529)] [[Template](#Section_f318b4c559544261b911331a08b2a64e)] INTERFACE [WriteAccess](#Section_231de348d93c4be3a12ba19173a45d69) [[FileSharing](#Section_e434c31d60bb4559b89d0c0d5fc66796)] [CodePage](#Section_03651cf719264356b42ba378938975e5) \*2047[Lel](#Section_2b7f0922b97348ea8c4d680f3a28400c) [DSF](#Section_638f5c45274246819304c9e2e46a52a9) [[Excel9File](#Section_502927ace61f449b97765fd2b20be200)] [RRTabId](#Section_e1b235b2c9554d38b7adfab84d93d4bc) [[ObProj](#Section_884177af912944cea21ae561b5950f52)] [[ObNoMacros](#Section_19b392c421734c2bbad0476c7eeb1aa5)] [[CodeName](#Section_848c71f86ad248e885724daef6e58f88)] [FNGROUPS] \*[Lbl](#Section_d148e89845044841a793ee85f3ea9eef) [[OleObjectSize](#Section_506c886a7be34951a4420dd2d00ea999)] PROTECTION 1\*[Window1](#Section_5e7b06630af04ff583fbb3c42a7ed54f) [Backup](#Section_8ab3b52bae5f473f834b0e65c36b0462) [HideObj](#Section_78419232de624b9b943e4032b882cf1e) [Date1904](#Section_4a5e900a0eb043558fc181aab8f46e8b) [CalcPrecision](#Section_102f9376fbe8471f8ede844d6078e857) [RefreshAll](#Section_d3c2f340c49d427c8b460a7e2c044aeb) [BookBool](#Section_088a59501c4544a39c47939e1c6af485) FORMATTING \*(PIVOTCACHEDEFINITION) [DOCROUTE] \*[UserBView](#Section_9ddd25503a9946ab9b6705173260cb9b) [UsesELFs](#Section_53f1e0afa1c8431dae8596a279417432) 1\*BUNDLESHEET METADATA [[MTRSettings](#Section_1a1eecb27ad5478e93b9400689733875)] [[ForceFullCalculation](#Section_4c925b9a68604b4d8acfba02e1146302)] [Country](#Section_440b4cc6215f439aaf5bf1b666c1af78) \*SUPBOOK \*LBL \*RTD [[RecalcId](#Section_95ba561a69a64661a8dde03305bbff3f)] \*[HFPicture](#Section_20401a12d4a245a9ba65d4d12e82010e) \*MSODRAWINGGROUP [SHAREDSTRINGS] [ExtSST](#Section_5d981e629e25490a9a75b177373e2d79) \*[WebPub](#Section_55e5f315770d494d85bbb2a4596e0beb) [[WOpt](#Section_b2ee8da0eaea475986dfdedd7eca0cf4)] [[CrErr](#Section_6d6adb51a32049cb9d310f8d99b0cb6a)] [[BookExt](#Section_57a303542c054a3094b47a75cdc58d55)] \*[FeatHdr](#Section_5748f6334a5c4b2c9f452d21c06f753d) \*[DConn](#Section_a2ace8d3019445709bc5a865e0d78a21) [THEME] [[CompressPictures](#Section_187e2d83905047c283807b6bebfeb5b5)] [[Compat12](#Section_1cc97ff28b024ebea4b32982f9f4aa29)] [[GUIDTypeLib](#Section_be971e45951c436d9ffd97f5a7066eb0)] [EOF](#Section_012176fe5802423b913578e22642456b)

WORKBOOK = [BOF](#Section_4d6a3d1ed7c5405fbbaed01e9cb79366) WORKBOOKCONTENT

INTERFACE = [InterfaceHdr](#Section_38ca272ef4b944a5946929f7a18ab3e2) [Mms](#Section_1ab827b8bfc34404bd0db933c34802e2) [InterfaceEnd](#Section_d0142973c4e54e6e8b92998cb2bd3013)

FNGROUPS = [BuiltInFnGroupCount](#Section_970af5a7a51d4a62925501456033ebd6) \*[FnGroupName](#Section_3b945c1f208a481e91cc333111fce594) \*[FnGrp12](#Section_a2c6b3b4267c4f858b5d21ebfb9e1cdd)

PROTECTION = [WinProtect](#Section_e2fe0d8d6b974223b267df0eddd8ee7d) [Protect](#Section_b32708d535d240059488abbfc319ae1f) [Password](#Section_1d0e4db7cc6a4143b72c27d972f72f05) [Prot4Rev](#Section_0e300242057545f3b3e0df888710697a) [Prot4RevPass](#Section_7ea7d419fec14f9295bbad6e3b3582c6)

FORMATTING = 1\*510[Font](#Section_291a910ccb694799875ea201845d4fd1) 8\*218[Format](#Section_300280fde4fe4675a9244d383af48d3b) XFS \*[DXF](#Section_ea2a96e15ec343d08b979fa0b7e9fc27) STYLES [TABLESTYLES] [[Palette](#Section_bf61236aa89e4425967934992c61ae5e)] [[ClrtClient](#Section_b8ac373afef94c18bbb49cfa9cafb924)]

XFS = 16\*[XF](#Section_993d15c4ec0443e9ba36594dfb336c6d) [[XFCRC](#Section_781bc27435404f56af6ef193efb3f6be) 16\*4050[XFExt](#Section_8a19848536094bcb87e741894d48b76a)]

STYLES = 1\*([Style](#Section_13bec5ebe6ec4dc192350e7f9e5426a1) [[StyleExt](#Section_88f1dded37b146239b6f9f7eb333f54f)])

TABLESTYLES = [TableStyles](#Section_292315200e4f429ebe5e1e5d39d6a2f3) \*([TableStyle](#Section_32b77a6330c54885bc94434923002d6d) \*28[TableStyleElement](#Section_5c1d12a901db4471897ae2d2875980c5))

PIVOTCACHEDEFINITION = [SXStreamID](#Section_a4dc3f5438904e35aad080a16b4b4cff) [SXVS](#Section_386ddcb0d3f94370b60c2f05b2d371c7) [SXSRC] [SXADDLCACHE]

SXSRC = DREF / SXTBL / DBQUERY

DREF = [DConName](#Section_26ceabe5f33a442f9a0fa3def1c47948) / [DConBin](#Section_d83824fcad44477cbe327da0e694ffcb) / [DConRef](#Section_589885b2fd4e4fcc9c8e37fbf7838716)

SXTBL = [SXTbl](#Section_39b109da8f3a498fbc2eb75e3d3c2cfc) \*DREF \*[SxTbpg](#Section_260ed10632ea4ffdb6fc6666208d6631) \*([SXTBRGIITM](#Section_76b060579d98424c9b3b5e48ccaf0c03) \*[SXString](#Section_0b135d8b213f4d54970bd7a934a79f36))

DBQUERY = [DbOrParamQry](#Section_e9beab75923f414f8e3ea6cdd8896394) [1\*SXString [DbOrParamQry \*(SXString DbOrParamQry)]] \*SXString

DOCROUTE = [DocRoute](#Section_a41f50f2ee25488da464648bb700bb28) 1\*65535[RecipName](#Section_1cfb77dec1804022b2d01af99fc129fe)

BUNDLESHEET = [BoundSheet8](#Section_b9ec509a235d424e871df8e721106501)

METADATA = \*MDTINFO \*MDXSTR \*(MDXTUPLESET / [MDXProp](#Section_a286d6eb77204abfb383c494c0db35e3) / [MDXKPI](#Section_08059ef97776497aafa77f40c0b045f6)) \*MDBLOCK

MDTINFO = [MDTInfo](#Section_915ac793a5364c45b699aa97a9d2bec5) \*[ContinueFrt12](#Section_e6527fe5f420420fad3fe5a242d04eee)

MDXSTR = [MDXStr](#Section_c801e9fde2b1419ea1b45c098aa241e5) \*ContinueFrt12

MDXTUPLESET = ([MDXTuple](#Section_d5cd418ff9c04542a5bd03dbb12c72fa) / [MDXSet](#Section_f9628c3f30f94072a4b0c11bf66c3cfc)) \*ContinueFrt12

MDBLOCK = [MDB](#Section_8326750414ce425ea1b0497179f9bcbe) \*ContinueFrt12

SUPBOOK = [SupBook](#Section_31ed3738e4ff4b60804cac49ac1ee6c0) [\*[ExternName](#Section_9549558214654bdd8183b16f8e8eaf74) \*([XCT](#Section_7b5ed322cc93451da553846066fe2f8c) \*[CRN](#Section_049bee32923041a9ab401cf5de41d563))] [[ExternSheet](#Section_475df8d4a3be47a59a014ec828059f43)] \*[Continue](#Section_999fae21d3d942e88290639782460c67)

LBL = Lbl [[NameCmt](#Section_a9cb03c70aa74947b3627d7b088eb973)] [[NameFnGrp12](#Section_c96036801322426db2a8161dc8050826)] [[NamePublish](#Section_486bbbd13ede46afb1d0f29458579944)]

RTD = [RealTimeData](#Section_957d4a2a30994e3d971214838ce0a100) \*[ContinueFrt](#Section_3aa793f4afb042be8ac7bb47d76da6f0)

MSODRAWINGGROUP = [MsoDrawingGroup](#Section_43e0d49645db4f19bb33bcb2464aa83c) \*Continue

SHAREDSTRINGS = [SST](#Section_b6231b92d32e4626baddc3310a672bab) \*Continue

THEME = [Theme](#Section_0a793062989d4e66b765ba483d594979) \*ContinueFrt12

SXADDLCACHE = [SXAddl\_SXCCache\_SXDId](#Section_21eb148497344b9d80952b1d7db4808e) [SXAddl\_SXCCache\_SXDVer10Info](#Section_38d95aa179c14ea697b37e460ff9a61c) [[SXAddl\_SXCCache\_SXDVerSXMacro](#Section_fea88f2f921c4e8daae6a7f51b694287)] [SXADDLCACHE12] [SXADDLDBQUERY] \*UNKNOWNFRT [SXAddl\_SXCCache\_SXDEnd](#Section_c88c0132c4be428bb83faad491cc3cac)

SXADDLCACHE12 = [SXAddl\_SXCCache\_SXDVerUpdInv](#Section_c24af34925b34117aaf2fa43af97d50b) [SXAddl\_SXCCache\_SXDInfo12](#Section_029dff932a484fe1bcffc2dadc5a25b8) [SXAddl\_SXCCache\_SXDInvRefreshReal](#Section_03f3c75e743a42ec8d9a86600e2389d7) \*SXADDLCACHEFIELD [SXADDLSXDH] [SXADDLSXMGS] SXAddl\_SXCCache\_SXDVerUpdInv

SXADDLSXDH = [SXAddl\_SXCSXDH\_SXDId](#Section_4e8af2a8159144208d8bb595e4fe2836) \*[SXAddl\_SXCSXDH\_SXDSxdh](#Section_9ae507e01e394d6fb8ae30864da3cc91) [SXAddl\_SXCSXDH\_SXDEnd](#Section_8a599af8114c4b6f873d4ab9ead60357)

SXADDLSXMGS = [SXAddl\_SXCSXMgs\_SXDId](#Section_3712162df02a442c886a78c6bbe65d95) \*SXADDLSXMG \*[SXAddl\_SXCSXMgs\_SXDMGrpSXDHMap](#Section_cea07034948b4520bd0a20f2498f0f50) \*UNKNOWNFRT [SXAddl\_SXCSXMgs\_SXDEnd](#Section_cdf59c7c7f77495b82167efc25f5b552)

SXADDLSXMG = [SXAddl\_SXCSXMg\_SXDId](#Section_48cb495cc5734b1dafb40bee8297103b) \*[Continue\_SxaddlSxString](#Section_9f727fbb4e08462f8a10ea873f0a5406) [[SXAddl\_SXCSXMg\_SXDUserCaption](#Section_bad319ae07e049b792757f98dc2d2e40) \*Continue\_SxaddlSxString] \*UNKNOWNFRT [SXAddl\_SXCSXMg\_SXDEnd](#Section_58731650e6424292abfe8654922c5f3c)

SXADDLCACHEFIELD = [SXAddl\_SXCCacheField\_SXDId](#Section_cc65e97dd6ce446683dca1c3100f1412) \*Continue\_SxaddlSxString [[SXAddl\_SXCCacheField\_SXDCaption](#Section_9bcf29f9cb65480e9ee09408caf2d8c9) \*Continue\_SxaddlSxString] [[SXAddl\_SXCCacheField\_SXDProperty](#Section_60f8c6f400b24c92a48f5801ae952872) [[SXAddl\_SXCCacheField\_SXDPropName](#Section_f2e0eace2d084a7a8ce5d4c733fbed30) \*Continue\_SxaddlSxString]] [[SXAddl\_SXCCacheField\_SXDIfdbMpMapCount](#Section_2c0324ea60f54fe2a8ff02cba81bec58) [SXAddl\_SXCCacheField\_SXDIfdbMempropMap](#Section_b60cba0e29cc485fa3b73371b418423b)] [[SXAddl\_SXCCacheField\_SXDSxrmitmCount](#Section_2970bf54171e43a7900eb3e6c9cf1d7b) \*SXADDLCACHEITEM [SXAddl\_SXCCacheItem\_SXDEnd](#Section_2b57bfc845aa46b2afe30eba4c54497a)] [SXAddl\_SXCCacheField\_SXDEnd](#Section_5d9df75f465b45ab8515487b9747ce3d)

SXADDLCACHEITEM = [SXAddl\_SXCCacheItem\_SXDId](#Section_98df9861e79041788deab1e33e468d42) [[SXAddl\_SXCCacheItem\_SXDSxrmitmDisp](#Section_a395079f0c774506a17a079d6db1f910) \*Continue\_SxaddlSxString] \*([SXAddl\_SXCCacheItem\_SXDItmMpMapCount](#Section_7d8e3a7982764592825792aae19861f8) [SXAddl\_SXCCacheItem\_SXDItmMpropMap](#Section_3b0d9180e64948a6ab1563e48acd8afe))

##### 2.1.7.20.4 Macro Sheet Substream

The **Macro Sheet Substream** specifies a [**macro sheet**](#gt_410f5dd1-4217-4d31-ab16-48271bd25491). This substream specifies an [**international macro sheet**](#gt_17a6eea5-8094-4056-84fd-8d97fbf0c865) if the **Intl** record (section [2.4.147](#Section_d5860aa203314af98e4b1d78be7056f5)) is present.

Record sequence[<7>](#Appendix_A_7" \o "Product behavior note 7) [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

MACROSHEETCONTENT = [[Uncalced](#Section_2bcabcfa10544ae2ab3c63a021ae0a14)] [Index](#Section_67c2092204274c2d96cc2267d3f09e8c) [Intl] GLOBALS PAGESETUP [[HeaderFooter](#Section_5d3587f3baef46abb2cf1c57e8b3dccf)] [BACKGROUND] \*BIGNAME [PROTECTION] COLUMNS MACROSORTANDFILTER [Dimensions](#Section_5fd3837c9f3d49528a85ad93ddb37ced) [CELLTABLE] OBJECTS \*[HFPicture](#Section_20401a12d4a245a9ba65d4d12e82010e) \*[Note](#Section_0e5d02566d864628a6face2e948673b0) [DCON] 1\*WINDOW \*CUSTOMVIEW \*2SORT [[DxGCol](#Section_a465709b2e50460ab17a23560087debe)] [PHONETICINFO] [[CodeName](#Section_848c71f86ad248e885724daef6e58f88)] \*[CellWatch](#Section_73d0c474fa8640a4b4a17e4ff84393b1) [[SheetExt](#Section_780be3426fd04265aaeba51f422a9c08)] \*FEAT \*RECORD12 [EOF](#Section_012176fe5802423b913578e22642456b)

MACROSHEET = [BOF](#Section_4d6a3d1ed7c5405fbbaed01e9cb79366) MACROSHEETCONTENT

MACROSORTANDFILTER = [[Sort](#Section_6f9f7e0308404af2b5afd0a8ae37e7f9)] [SORTDATA12] [[DropDownObjIds](#Section_58ca7b2b7c274ac7b5fd97d370d44524)] [AUTOFILTER]

For ABNF rules not listed here, see section [2.1.7.20.6](#Section_a1b3d8b4744241fd9c57bbd2a6394082). **Table** (section [2.4.319](#Section_2e33c7ad8a8a4abcb36f01c682ad2eb9)) MUST NOT appear under this substream.

##### 2.1.7.20.5 Worksheet Substream

The **Worksheet Substream** specifies a [**worksheet**](#gt_2fdc6291-fa6a-48a6-afbb-04f910d68615).

Record sequence[<8>](#Appendix_A_8" \o "Product behavior note 8) [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

WORKSHEETCONTENT = [[Uncalced](#Section_2bcabcfa10544ae2ab3c63a021ae0a14)] [Index](#Section_67c2092204274c2d96cc2267d3f09e8c) GLOBALS PAGESETUP [[HeaderFooter](#Section_5d3587f3baef46abb2cf1c57e8b3dccf)] [BACKGROUND] \*BIGNAME [PROTECTION] COLUMNS [SCENARIOS] SORTANDFILTER [Dimensions](#Section_5fd3837c9f3d49528a85ad93ddb37ced) [CELLTABLE] OBJECTS \*[HFPicture](#Section_20401a12d4a245a9ba65d4d12e82010e) \*[Note](#Section_0e5d02566d864628a6face2e948673b0) \*PIVOTVIEW [DCON] 1\*WINDOW \*CUSTOMVIEW \*2SORT [[DxGCol](#Section_a465709b2e50460ab17a23560087debe)] \*[MergeCells](#Section_41a3a3e710154322832937dcdf41179b) [[LRng](#Section_d635ea2716fa432b8bbac63f838e800e)] \*QUERYTABLE [PHONETICINFO] CONDFMTS \*HLINK [DVAL] [[CodeName](#Section_848c71f86ad248e885724daef6e58f88)] \*[WebPub](#Section_55e5f315770d494d85bbb2a4596e0beb) \*[CellWatch](#Section_73d0c474fa8640a4b4a17e4ff84393b1) [[SheetExt](#Section_780be3426fd04265aaeba51f422a9c08)] \*FEAT \*FEAT11 \*RECORD12 [EOF](#Section_012176fe5802423b913578e22642456b)

WORKSHEET = [BOF](#Section_4d6a3d1ed7c5405fbbaed01e9cb79366) WORKSHEETCONTENT

SCENARIOS = [ScenMan](#Section_e05f30b412cd42af902798c4c065cc42) \*([SCENARIO](#Section_a4cbc8c15b954f5682fa945bc8082e4f) \*[Continue](#Section_999fae21d3d942e88290639782460c67))

SORTANDFILTER = [[Sort](#Section_6f9f7e0308404af2b5afd0a8ae37e7f9)] [SORTDATA12] [[FilterMode](#Section_5c769f491a514f859bf80394754c7a65)] [[DropDownObjIds](#Section_58ca7b2b7c274ac7b5fd97d370d44524)] [AUTOFILTER]

PIVOTVIEW = PIVOTCORE [PIVOTFRT]

PIVOTCORE = [SxView](#Section_fcf246969b7b45a2b48a4199d26fb41b) \*PIVOTVD \*2PIVOTIVD [PIVOTPI] \*[SXDI](#Section_4143b9eec91a443c83e82185e75cb7b5) \*PIVOTLI PIVOTEX

PIVOTFRT = PIVOTFRT9 [PIVOTADDL]

PIVOTFRT9 = [QsiSXTag](#Section_3bb6727096504455944daa8e21dbb19f) [DBQUERYEXT] [PIVOTVIEWEX] [SXViewEx9](#Section_0afb49167a5243b6891742c07b8dc954)

PIVOTVD = [Sxvd](#Section_6f48271ee32547ea9efe9c197d0fb8e6) \*[SXVI](#Section_79769ad0d2134e6dbf34fb766907091c) [SXVDEx](#Section_07ecd5c3e40e44ffbf1a0a473659a5cf)

PIVOTIVD = [SxIvd](#Section_72c54b06c9254140b6dbdf133439e596) \*Continue

PIVOTPI = [SXPI](#Section_ab19ef2ad06e4dccb6e936c36a6af22f) \*Continue

PIVOTLI = [SXLI](#Section_ecd011a31ac1437997888aace5299d40) \*Continue

PIVOTEX = [SXEx](#Section_a758cb8447e340398a6cbbe32a3120ba) \*PIVOTSELECT \*PIVOTFORMAT

PIVOTSELECT = [SxSelect](#Section_9fb92c604b6f49928ef89a5a682a610c) PIVOTRULE

PIVOTFORMAT = [SxFormat](#Section_1bf196bf9b3440db8d3787d204b2f8e7) PIVOTRULE [[SxDXF](#Section_2a8a126ca0bb4ba59ef125e7420aec58)]

PIVOTVIEWEX = [SXViewEx](#Section_27ea06d9f8194694990ec5b507541108) \*PIVOTTH \*[SXPIEx](#Section_bb443ec342004b388f93a4654df874a8) \*PIVOTVDTEX

PIVOTTH = [SXTH](#Section_a1b4c45f245d474da2e2c087b572846f) \*[ContinueFrt](#Section_3aa793f4afb042be8ac7bb47d76da6f0)

PIVOTVDTEX = [SXVDTEx](#Section_1dcf2beeca2c4c3abd4278bc22c3043d) \*ContinueFrt

QUERYTABLE = [Qsi](#Section_262f630c4e9a4cbda2e81bb96a4fc8b3) DBQUERY QsiSXTag DBQUERYEXT [SXADDLQSI] [QSIR] [SORTDATA12]

SXADDLQSI = [SXAddl\_SXCQsi\_SXDId](#Section_73eeb496e08f44ccac01ab9b822cb73e) SXADDLDBQUERY \*UNKNOWNFRT [SXAddl\_SXCQsi\_SXDEnd](#Section_f79404936ada46f5b81c317682d8253e)

QSIR = [Qsir](#Section_25ee6ec957bc47dfadd55a0a20a44c96) \*[Qsif](#Section_4eac5c646b994ccd9665be0dde5ff648)

DBQUERY = [DbOrParamQry](#Section_e9beab75923f414f8e3ea6cdd8896394) [1\*[SXString](#Section_0b135d8b213f4d54970bd7a934a79f36) [DbOrParamQry \*(SXString DbOrParamQry)]] \*SXString

DBQUERYEXT = [DBQueryExt](#Section_1b04b35c1f20475aadac424a664509dd) [[ExtString](#Section_48ec5507dc4c49049590a32423145f0e)] \*4[[OleDbConn](#Section_b234c71728dc41f39016786cd68321e4) \*ExtString] [[TxtQry](#Section_a61f99d2b81b4105a6b8a12d9e7dc45b) \*ExtString]

CONDFMTS = \*(CONDFMT / CONDFMT12) \*([CFEx](#Section_60d13d2f8eb741bf975c8a1a51ad58b6) [[CF12](#Section_3b6a364e8c344830a8b15a51476a9934)])

CONDFMT = [CondFmt](#Section_03ae6098bdc2475bba2cb8aef7882174) 1\*3[CF](#Section_d6dcadf27e074f7da60a0f643780225d)

CONDFMT12 = [CondFmt12](#Section_b891e73712f641ddb8a87360a4826d4a) 1\*CF12

HLINK = [HLink](#Section_f0b9de34b1474f96a1a3ac21f6fd48fa) [[HLinkTooltip](#Section_e85d171a913844bb8e539cef48abbc0e)]

DVAL = [DVal](#Section_f88c3d08b7fe4730906839a5dcd41db5) \*65534[Dv](#Section_862bbc7c009a4fd6a93e3e32e591c2f8)

PIVOTADDL = [SXAddl\_SXCView\_SXDId](#Section_b62c9dbcce0d430bab35fb2e310a36b7) \*[Continue\_SxaddlSxString](#Section_9f727fbb4e08462f8a10ea873f0a5406) [[SXAddl\_SXCView\_SXDVer10Info](#Section_852f0dea13e84b8bae42ae9b09e76c5e)] [[SXAddl\_SXCView\_SXDVer12Info](#Section_c4888328f46743bb8ad960ff62f1d364)] \*SXADDLCALCMEMBER \*SXADDLHIERARCHY \*SXADDLFIELD \*UNKNOWNFRT [[SXAddl\_SXCView\_SXDTableStyleClient](#Section_adade4ceaf6e4dd19d669080ebaec11d)] [[SXAddl\_SXCView\_SXDCompactRwHdr](#Section_9a0c8b650f274f5db32e43e8bedb857c) \*Continue\_SxaddlSxString] [[SXAddl\_SXCView\_SXDCompactColHdr](#Section_46eb5a733a1b420aac067082ab18a2fc) \*Continue\_SxaddlSxString] [[SXAddl\_SXCView\_SXDVerUpdInv](#Section_4ef665e54eb34c78a22e1f470bae4efe)] [SXADDLCONDFMTS] [SXADDLSXFILTERS12] \*SXAddl\_SXCView\_SXDVerUpdInv \*[SXAddl\_SXCView\_SXDSXPIIvmb](#Section_a87914600ed4482dab8b378915cc6fad) [SXAddl\_SXCView\_SXDVerUpdInv] [SXAddl\_SXCView\_SXDEnd](#Section_38d4685f17224c828bae3c9d008e5bfb)

SXADDLCALCMEMBER = ([SXAddl\_SXCView\_SXDCalcMember](#Section_ec60a3e765fc4431b322cb8f39595a08) [[SXAddl\_SXCView\_SXDCalcMemString](#Section_982c65e56e14423c8428be4eaa8cb2cd) \*Continue\_SxaddlSxString])

SXADDLCONDFMTS = [SXAddl\_SXCSXCondFmts\_SXDId](#Section_12bb9268279042f68f7884885ffeb86e) \*SXADDLCONDFMT [SXAddl\_SXCSXCondFmts\_SXDEnd](#Section_683a7e047e9d4c269fbabb41140e8fe6)

SXADDLCONDFMT = [SXAddl\_SXCSXCondFmt\_SXDSXCondFmt](#Section_80ff6be32d15488bbb335b5ab529fb50) \*SXADDLSXRULE [SXAddl\_SXCSXCondFmt\_SXDEnd](#Section_e9b99640a51e4d0ca671e519458d2fab)

SXADDLAUTOSORT = [SXAddl\_SXCAutoSort\_SXDId](#Section_fdf7cd46d880434d84191c1618005251) SXADDLSXRULE [SXAddl\_SXCAutoSort\_SXDEnd](#Section_207b19ebebad4dd199962e934d80b049)

SXADDLSXRULE = [SXAddl\_SXCSXrule\_SXDId](#Section_ed2dd20d531445acaa2546a2069e97fa) [SXAddl\_SXCSXrule\_SXDSXrule](#Section_4a44c5299646401e92b294601cef1455) \*SXADDLSXFILT [SXAddl\_SXCSXrule\_SXDEnd](#Section_4db556f78dcc4b149f0111b1dd6ea442)

SXADDLSXFILT = [SXAddl\_SXCSXfilt\_SXDId](#Section_07971f8c749546f48d93309b1fb05dbf) [SXAddl\_SXCSXfilt\_SXDSXfilt](#Section_c3dfcd7c1cbd4fea9140ab36ce97d1c6) [[SXAddl\_SXCSXfilt\_SXDSXItm](#Section_86aafb0ee3aa4864b5177ad3b372abc3)] [SXAddl\_SXCSXfilt\_SXDEnd](#Section_912a41e2503a441c8593347818348045)

SXADDLSXFILTERS12 = [SXAddl\_SXCSXFilters12\_SXDId](#Section_e0c0f6126586416f940a45beb1def18a) \*SXADDLSXFILTER12 [SXAddl\_SXCSXFilters12\_SXDEnd](#Section_33a332d8401e493a94ca8a53b5a7850f)

SXADDLSXFILTER12 = [SXAddl\_SXCSXFilter12\_SXDId](#Section_66e9171ec67541a1920bb181cfce772d) [SXAddl\_SXCSXFilter12\_SXDSXFilter](#Section_ef6b03f6ed464a42a2605f8f3369ba26) [[SXAddl\_SXCSXFilter12\_SXDCaption](#Section_4a5f2ee8f5f7449494e5a3a2560eb1d3) \*Continue\_SxaddlSxString] [[SXAddl\_SXCSXFilter12\_SXDSXFilterDesc](#Section_ca7c181ead0d413482c354c96d04e9f9) \*Continue\_SxaddlSxString] [[SXAddl\_SXCSXFilter12\_SXDSXFilterValue1](#Section_be6cc64a607841adbd2e37ae14c9ee4f) \*Continue\_SxaddlSxString] [[SXAddl\_SXCSXFilter12\_SXDSXFilterValue2](#Section_81ac6d1aa1de49eda3212b81ad1faa47) \*Continue\_SxaddlSxString] [SXAddl\_SXCSXFilter12\_SXDXlsFilter](#Section_cd93d0c8bd1c4202b8cae98f16ab0c41) [[SXAddl\_SXCSXFilter12\_SXDXlsFilterValue1](#Section_62bd1ee0e0144b8bb74cfe026660a144) \*Continue\_SxaddlSxString] [[SXAddl\_SXCSXFilter12\_SXDXlsFilterValue2](#Section_fcdb22068f4045479ff52a079b7507f4) \*Continue\_SxaddlSxString] [SXAddl\_SXCSXFilter12\_SXDEnd](#Section_d5364d1d0d7d4151b6d25123e9be05c3)

SXADDLFIELD = [[SXAddl\_SXCField\_SXDId](#Section_f09d5830e9da4f6698ee1274b20860bc) \*Continue\_SxaddlSxString [SXAddl\_SXCField\_SXDVer10Info](#Section_90f9905b3ba2481995a11c5ff01d92d8) [SXAddl\_SXCField\_SXDEnd](#Section_2e1472baf3904c40a7a141523671fb09)] [SXADDLFIELD12]

SXADDLFIELD12 = [SXAddl\_SXCField12\_SXDId](#Section_7bd7c0878533430eb4b8006baba84c01) \*Continue\_SxaddlSxString [SXAddl\_SXCField12\_SXDVer12Info](#Section_f7f523c98b2d4eea993b80f272c83a30) [SXAddl\_SXCField12\_SXDVerUpdInv](#Section_e2636920f93c48a38ca15b5b75b660ee) [[SXAddl\_SXCField12\_SXDMemberCaption](#Section_549a05915771454699749271cfd387b3) \*Continue\_SxaddlSxString] [[SXAddl\_SXCField12\_SXDAutoshow](#Section_7ce0424010cf4d009c2339250178183a)] [[SXAddl\_SXCField12\_SXDISXTH](#Section_71bd6907aeab49b0ae61e49b0771bb51)] [SXADDLAUTOSORT] SXAddl\_SXCField12\_SXDVerUpdInv \*UNKNOWNFRT [SXAddl\_SXCField12\_SXDEnd](#Section_ea10673aaedd4b76a5e81147f2c01c6f)

SXADDLHIERARCHY = [SXAddl\_SXCHierarchy\_SXDId](#Section_38febb32daf04ebca9aa2be359bcda3e) \*Continue\_SxaddlSxString \*[SXAddl\_SXCHierarchy\_SXDProperty](#Section_263064a90d694646a45d2ba174495fe5) \*SXADDLGRPLEVEL [[SXAddl\_SXCHierarchy\_SXDVerUpdInv](#Section_55cf25c16dce48f2b30370421f8dbead)] \*[SXAddl\_SXCHierarchy\_SXDFilterMember](#Section_6814aaca90cd45849413d70f047f54d2) [SXAddl\_SXCHierarchy\_SXDVerUpdInv] [[SXAddl\_SXCHierarchy\_SXDSXSetParentUnique](#Section_2c369ec54eee48509c966210514c3426) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDIconSet](#Section_21e020d30f494c1299a00e3346a17019)] [[SXAddl\_SXCHierarchy\_SXDUserCaption](#Section_553d53d763e145a9b07608d7946c009f) \*Continue\_SxaddlSxString] \*UNKNOWNFRT [SXAddl\_SXCHierarchy\_SXDVerUpdInv] \*[SXAddl\_SXCHierarchy\_SXDFilterMember12](#Section_e38c0aa8e2e2448680ed5d230a53d17a) [SXAddl\_SXCHierarchy\_SXDVerUpdInv] [[SXAddl\_SXCHierarchy\_SXDInfo12](#Section_b14c6fae02be48fcb1aa858b61485b9d)] [[SXAddl\_SXCHierarchy\_SXDDisplayFolder](#Section_d48d04ee81bc4ca0bef341ccf60a4cda) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDMeasureGrp](#Section_a49c775a7cb84c78a2a7969ed8b003b6) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDParentKPI](#Section_003a3cca47e0424783233aaaac2c045b) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDKPIValue](#Section_e25584427c5e4659929282d4e16dd295) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDKPIGoal](#Section_813f1500321f4b0682b2b7b2e684d6a7) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDKPIStatus](#Section_3cdc22c0161b4e34a6f04c0f6401e8c1) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDKPITrend](#Section_c14151f1c30641bab8ba23510c4cf8e3) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDKPIWeight](#Section_41d7546e65cc42269e7f3c08be3c395d) \*Continue\_SxaddlSxString] [[SXAddl\_SXCHierarchy\_SXDKPITime](#Section_ea6c982c8f2d4bb49985d4e1899bf3cc) \*Continue\_SxaddlSxString] [SXAddl\_SXCHierarchy\_SXDEnd](#Section_198666533b024f6da517f374646df2d7)

SXADDLGRPLEVEL = [SXAddl\_SXCGrpLevel\_SXDId](#Section_af01cf328d8647c384536e73ba72a9ae) \*Continue\_SxaddlSxString [SXAddl\_SXCGrpLevel\_SXDGrpLevelInfo](#Section_5cd835b8d6dd464384660f90b7e801f8) \*SXADDLGROUP \*UNKNOWNFRT [SXAddl\_SXCGrpLevel\_SXDEnd](#Section_8b3b1021f4ac4116abb8a86752f0f1a4)

SXADDLGROUP = [SXAddl\_SXCGroup\_SXDId](#Section_347f9d1820d4407cb61bbeefa6464c94) \*Continue\_SxaddlSxString [SXAddl\_SXCGroup\_SXDGrpInfo](#Section_8a29a91e723942699707d1c3ada10825) \*[SXAddl\_SXCGroup\_SXDMember](#Section_e15240b22d9a45aa8698440f83c70821) \*UNKNOWNFRT [SXAddl\_SXCGroup\_SXDEnd](#Section_c8845e226cf84806a77a3fb0549b5fff)

For ABNF rules not listed here, see the [Common Productions](#Section_a1b3d8b4744241fd9c57bbd2a6394082) section.

##### 2.1.7.20.6 Common Productions

Record sequence fragments that are common to multiple substreams are specified here. If a fragment cannot be found under its part, look for it in this record sequence[<9>](#Appendix_A_9" \o "Product behavior note 9)[<10>](#Appendix_A_10" \o "Product behavior note 10)[<11>](#Appendix_A_11" \o "Product behavior note 11) [**ABNF**](#gt_24ddbbb4-b79e-4419-96ec-0fdd229c9ebf):

GLOBALS = [CalcMode](#Section_792088e4c3b440208ff837ed95e82a34) [CalcCount](#Section_e141e17f650d4a1da846cbafe9d2d891) [CalcRefMode](#Section_ba6ce09d49964a87a5405ab0740c1428) [CalcIter](#Section_c2e725ae7d9d40e9b9fd7af1b3cc3ed9) [CalcDelta](#Section_2ce1588b26704a20a81e100fe2473254) [CalcSaveRecalc](#Section_04568ab39e164df090821dea52f2149c) [PrintRowCol](#Section_6fd25fc4148742b0a2082be11ea3b0e5) [PrintGrid](#Section_9b085462c1fd4a648afa0a81b31039d9) [GridSet](#Section_6026846df9f34a1a92a19930808ea6d7) [Guts](#Section_13b8e6ce746345019bd3287b04d1b54a) [DefaultRowHeight](#Section_407c7fd6d37849018c79432bfe38cef9) [WsBool](#Section_ccbd73f9ff1d4069be3113d16c074ec4) [[Sync](#Section_658879a8ff3641868dfa12f925b76356)] [[LPr](#Section_0dbfaf5a0ea54c068d9dcafaa0576dea)] [[HorizontalPageBreaks](#Section_a57df9916148411f96629c9857d72e1a)] [[VerticalPageBreaks](#Section_509d916129e1400695cc40e26acb7703)]

PAGESETUP = [Header](#Section_b64cf6b894724f979a69d839f0fa1089) [Footer](#Section_10606f3c5e9b4e7d8bd97a28489fea4d) [HCenter](#Section_fd61eeaff759424580205232dc61e69e) [VCenter](#Section_320e7b0b8c6f46ac8e7e35947f0d16f7) [[LeftMargin](#Section_0c67a571c2c14596b119270c45a7037d)] [[RightMargin](#Section_ef3b757016a54806a2956fee409fb59a)] [[TopMargin](#Section_ecfc8b81a8884e258632a9edd66e106c)] [[BottomMargin](#Section_a0fa5550116c4768b0d19ab0887d3f60)] [[Pls](#Section_baf5f46f07204cada4c551094868d90a) \*[Continue](#Section_999fae21d3d942e88290639782460c67)] [Setup](#Section_23642d03de0e4a7f94dac2e594020bf2)

BACKGROUND = [BkHim](#Section_e029b89cfed74fe2a0c93c44e99a6c7e) \*Continue

BIGNAME = [BigName](#Section_e12c7360022f49e0a3d0dd342073bce0) \*[ContinueBigName](#Section_f45a9462f6eb49879dc99a20f37e8cf3)

PROTECTION = [[Protect](#Section_b32708d535d240059488abbfc319ae1f)] [[ScenarioProtect](#Section_eea9fdb32cac4393a9a958bd76c5dd47)] [[ObjProtect](#Section_2bdeec9cf3e34c96b9a98890985816c6)] [[Password](#Section_1d0e4db7cc6a4143b72c27d972f72f05)]

COLUMNS = [DefColWidth](#Section_30dc2bcb4f9943a3a745fbc54b5b8161) \*255[ColInfo](#Section_2c339a18081942219c5d3e9cf304224b)

AUTOFILTER = [AutoFilterInfo](#Section_48d72277d8054ea08a518a36bc6e32d1) \*([AutoFilter](#Section_665bd56446774ea7bf6b89f27edb0788) / ([AutoFilter12](#Section_8238f9cb97974cff9b8a180d2b025c31) \*[ContinueFrt12](#Section_e6527fe5f420420fad3fe5a242d04eee))) \*SORTDATA12

CELLTABLE = 1\*(1\*[Row](#Section_4aab09eb49ed4d01a3b11d726247d3c2) \*CELL 1\*[DBCell](#Section_e08dc762bf8a457cb3ba39055bff423a)) \*[EntExU2](#Section_23b0143e4d8a409ab4c854f2d8b9facc)

CELL = FORMULA / [Blank](#Section_2918f1db545e432a8f57599c44251f07) / [MulBlank](#Section_a9ab7fa1183a487ca5066b4a19e770be) / [RK](#Section_656e0e798b9d4854803f23ec62080678) / [MulRk](#Section_d125fec1fc584e118e87762a762e0a3b) / [BoolErr](#Section_eb6cc28556634859982b6662ee116614) / [Number](#Section_a40c74c63df44e819a4385521cc92c0a) / [LabelSst](#Section_3f52609d816f44a7aad1e0fe2abccebd)

FORMULA = [[Uncalced](#Section_2bcabcfa10544ae2ab3c63a021ae0a14)] [Formula](#Section_8e3c69786c9f4915a82607613204b244) [[Array](#Section_c6ee7512d6ec4d818dfba01a744a1f39) / [Table](#Section_2e33c7ad8a8a4abcb36f01c682ad2eb9) / [ShrFmla](#Section_984826cc8bb7412b99077bbb9b08b4ad) / SUB] [[String](#Section_504b6cfcd57b429692f4ceefc0a2ca9b) \*Continue]

PHONETICINFO = [PhoneticInfo](#Section_fe4b96b2cc6e46b1adf22070f65dfe43) \*Continue

OBJECTS = \*(MSODRAWING \*(TEXTOBJECT / OBJ)) [[MsoDrawingSelection](#Section_872cf7cd330546c399e31c2c520c0947)]

MSODRAWING = [MsoDrawing](#Section_1b0b0ea35e1d41ce8e79e27f1041331e) \*Continue

OBJ = [Obj](#Section_dd34df60825040a983a3911476a31ea7) \*Continue \*CHART

CHART = CHARTSHEET \*Continue

TEXTOBJECT = [TxO](#Section_638c08e629424783b71b144ccf758fc7) \*Continue

DCON = [DCon](#Section_47c14f9f0c8448fa9726ae57e4d33a01) \*([DConName](#Section_26ceabe5f33a442f9a0fa3def1c47948) / [DConBin](#Section_d83824fcad44477cbe327da0e694ffcb) / [DConRef](#Section_589885b2fd4e4fcc9c8e37fbf7838716))

WINDOW = [Window2](#Section_80576ec8e7f04c9990a7d850587bc97b) [[PLV](#Section_9aaa4e93a6c24de1b1bd3c87e9affa5c)] [[Scl](#Section_2cdcac9bf00444cb82e1d592500ffef8)] [[Pane](#Section_9dcaa80b63154aeaa802872ccd4e8d1b)] \*[Selection](#Section_00131cedfe32403b9be4d9c234fde7d4)

CUSTOMVIEW = [UserSViewBegin](#Section_c75bbfe0f69546109d1eb7d93fc25fe9) \*Selection [HorizontalPageBreaks] [VerticalPageBreaks] [Header] [Footer] [HCenter] [VCenter] [LeftMargin] [RightMargin] [TopMargin] [BottomMargin] [Pls] [Setup] [[PrintSize](#Section_67d08dd9153e476385198354a5ef3ace)] [[HeaderFooter](#Section_5d3587f3baef46abb2cf1c57e8b3dccf)] [AUTOFILTER] [UserSViewEnd](#Section_61a01e89f0a44900b213eeea89f1db0b)

SORT = [RRSort](#Section_e2f8f20ce1ef4da696cbcbe03b716aaa) \*Continue

SORTDATA12 = [SortData](#Section_03d35bda10dc40dbb503511479000d58) \*ContinueFrt12

PIVOTRULE = [SxRule](#Section_1f7e8f8c74ff4a6587476faf9b4c58a9) \*PRFILTER

PRFILTER = [SxFilt](#Section_c7274a7468334fcebf62d4d4091e243d) [[SxItm](#Section_40dd493b575549b69a051fc6bdecbf4c) \*Continue]

FEAT = [FeatHdr](#Section_5748f6334a5c4b2c9f452d21c06f753d) \*([Feat](#Section_f8800f12d3ff4fa790a4a505e26e5608) \*[ContinueFrt](#Section_3aa793f4afb042be8ac7bb47d76da6f0))

FEAT11 = [FeatHdr11](#Section_45a7d5ac82e142d0a2290c4dc8446d43) \*(([Feature11](#Section_4c78a7d3a3ff48e28e2cc89785519322) / [Feature12](#Section_4c95f0ddd35745758b77792dbe2c0d5e)) \*[ContinueFrt11](#Section_c707340cf220455f8ffcb7ab49e9b0a7) \*[List12](#Section_d6099543f4ff4cc19b0204f2d8e1222f) [AutoFilter12 \*ContinueFrt12] \*List12 [SORTDATA12])

RECORD12 = HeaderFooter

SXADDLDBQUERY = [[SXAddl\_SXCQuery\_SXDXMLSource](#Section_064af5ebb94e49ea8a24e90fdcd7f1cf) \*[Continue\_SxaddlSxString](#Section_9f727fbb4e08462f8a10ea873f0a5406)] [[SXAddl\_SXCQuery\_SXDSrcDataFile](#Section_394cb9a661c542f089d73748721e15fa) \*Continue\_SxaddlSxString] [[SXAddl\_SXCQuery\_SXDSrcConnFile](#Section_f41f413611484186b271fde913611fd9) \*Continue\_SxaddlSxString] [[SXAddl\_SXCQuery\_SXDReconnCond](#Section_bde80fdf9eb54b4295d39ff986a0a4a3)] [SXAddl\_SXCQuery\_SXDEnd](#Section_120b91ae45344be8bf2a8d3cc7f34833)

UNKNOWNFRT = [SXAddl](#Section_54370a1209c34832a72c37d317bf069e)

#### 2.1.7.21 XML Signatures Storage (\_xmlsignatures)

The **XML Signatures Storage** is specified in [[MS-OFFCRYPTO]](file:///C:\Users\Administrator\Desktop\OfficeEncryption\%5bMS-OFFCRYPTO%5d.pdf#Section_3c34d72a1a614b52a893196f9157f083) section 2.5.2.

The name of this storage MUST be "\_xmlsignatures". A file MUST contain at most one **XML Signatures S**torage[<12>](#Appendix_A_12" \o "Product behavior note 12).

When generating the **DigestValue**, as specified in [[XMLDSig]](https://go.microsoft.com/fwlink/?LinkId=130861) section 4.3.3.6, the record data, as specified in the **Record** section (section [2.1.4](#Section_170e90ce87d747589331dcf14cd72388)), in the **WriteAccess record** (section [2.4.349](#Section_231de348d93c4be3a12ba19173a45d69)) in the **Globals Substream** (section [2.1.7.20.3](#Section_ca4c174887294a93abb94602b3a01fb1)) is skipped.

#### 2.1.7.22 XML Stream (XML)

The XML **S**tream specifies one or more [**XML maps**](#gt_01b93f1f-ca62-4216-82d5-b6154e925c9f).

The name of the stream MUST be "XML". A file MUST contain at most one XML **S**tream.

The syntax 语法of the structures contained in this part uses [**XML schema definition (XSD)**](#gt_c7e91c99-e45a-44c2-a08a-c34f137a2cae), as specified in [[XMLSCHEMA1]](https://go.microsoft.com/fwlink/?LinkId=90608) and [[XMLSCHEMA2]](https://go.microsoft.com/fwlink/?LinkId=90610).

This specification defines and references various [**XML namespaces**](#gt_485f05b3-df3b-45ac-b8bf-d05f5d185a24) using the mechanisms specified in [[XMLNS]](https://go.microsoft.com/fwlink/?LinkId=191840).

The content of this stream is [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) as specified by the following [**XML schema**](#gt_bd0ce6f9-c350-4900-827e-951265294067):

<?xml version="1.0" encoding="utf-8"?>

<s:schema

attributeFormDefault="unqualified"

elementFormDefault="unqualified"

xmlns:s="http://www.w3.org/2001/XMLSchema">

<s:element name="**MapInfo**">

<s:complexType>

<s:sequence>

<s:element name="**Schema**" maxOccurs="unbounded">

<s:complexType>

<s:sequence>

<s:any processContents="skip" />

</s:sequence>

<s:attribute name="**ID**" type="**ST\_Xstring65535**" use="required" />

<s:attribute name="**SchemaRef**" type="**ST\_Xstring65535**" />

<s:attribute name="**Namespace**" type="**ST\_Xstring65535**" />

</s:complexType>

</s:element>

<s:element name="**Map**" maxOccurs="unbounded">

<s:complexType>

<s:sequence>

<s:element name="**DataBinding**" minOccurs="0">

<s:complexType>

<s:sequence>

<s:any minOccurs="0" processContents="skip" />

</s:sequence>

<s:attribute name="**DataBindingName**" type="**ST\_Xstring65535**" />

<s:attribute name="**FileBinding**" type="**ST\_Xstring65535**"

use="required" />

<s:attribute name="**FileBindingName**" type="**ST\_Xstring65535**" />

<s:attribute name="**DataBindingLoadMode**"

type="**ST\_DataBindingLoadMode**" use="required" />

</s:complexType>

</s:element>

</s:sequence>

<s:attribute name="**ID**" type="**ST\_XmlMapId**" use="required" />

<s:attribute name="**Name**" type="**ST\_Xstring256**" use="required" />

<s:attribute name="**RootElement**" type="**ST\_Xstring65535**"

use="required" />

<s:attribute name="**SchemaID**" type="**ST\_Xstring65535**" use="required" />

<s:attribute name="**ShowImportExportValidationErrors**"

type="**ST\_XmlMapBoolean**" use="required"/>

<s:attribute name="**AutoFit**" type="**ST\_XmlMapBoolean**" use="required" />

<s:attribute name="**Append**" type="**ST\_XmlMapBoolean**" use="required" />

<s:attribute name="**PreserveSortAFLayout**" type="**ST\_XmlMapBoolean**"

use="required" />

<s:attribute name="**PreserveFormat**" type="**ST\_XmlMapBoolean**"

use="required" />

</s:complexType>

</s:element>

</s:sequence>

<s:attribute name="**SelectionNamespaces**" type="**ST\_Xstring65535**"

use="required"/>

</s:complexType>

</s:element>

<s:simpleType name="**ST\_DataBindingLoadMode**">

<s:restriction base="s:unsignedInt">

<s:enumeration value="0" />

<s:enumeration value="1" />

<s:enumeration value="2" />

<s:enumeration value="3" />

<s:enumeration value="4" />

</s:restriction>

</s:simpleType>

<s:simpleType name="**ST\_XmlMapBoolean**">

<s:restriction base="s:string">

<s:enumeration value="false" />

<s:enumeration value="true" />

</s:restriction>

</s:simpleType>

<s:simpleType name="**ST\_XmlMapId**">

<s:restriction base="s:unsignedInt">

<s:minInclusive value="1" />

<s:maxInclusive value="2147483647" />

</s:restriction>

</s:simpleType>

<s:simpleType name="**ST\_Xstring65535**">

<s:restriction base="s:string" />

</s:simpleType>

<s:simpleType name="**ST\_Xstring256**">

<s:restriction base="s:string" />

</s:simpleType>

</s:schema>

##### 2.1.7.22.1 Elements

The following table specifies the [**XSD**](#gt_c7e91c99-e45a-44c2-a08a-c34f137a2cae) elements that are specific to the **XML Stream** (section [2.1.7.22](#Section_e25e01370b9c4429bd260eed92e01c35)):

| Element | Description |
| --- | --- |
| **MapInfo** (section [2.1.7.22.1.1](#Section_a7ea1bde730c4ef3bc9379f78f793aab)) | This element specifies a container for all of the [**XML schemas**](#gt_bd0ce6f9-c350-4900-827e-951265294067) and [**XML maps**](#gt_01b93f1f-ca62-4216-82d5-b6154e925c9f) attached to workbook. |
| **Schema** (section [2.1.7.22.1.2](#Section_085d058b1173411ead93fddbd822f781)) | This element specifies an XML schema associated with an XML map. |
| **Map** (section [2.1.7.22.1.3](#Section_82224f3b936a44cbbec1b0992d1a1281)) | This element specifies an XML map and the behaviors expected during [**refresh**](#gt_d947dfed-8e3a-4451-b978-d69a89ae6060) operations. |
| **DataBinding** (section [2.1.7.22.1.4](#Section_53d6d872ee4849689d06365efeb5b416)) | This element specifies a connection to an [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) file [**data source**](#gt_e091613c-6901-4874-b9b2-27273ead1075) that is used when the XML map is refreshed. |

###### 2.1.7.22.1.1 MapInfo

The **MapInfo element** specifies a container for all of the [**XML schemas**](#gt_bd0ce6f9-c350-4900-827e-951265294067) and [**XML maps**](#gt_01b93f1f-ca62-4216-82d5-b6154e925c9f) attached to workbook.

**SelectionNamespaces:** An **ST\_Xstring65535** (section [2.1.7.22.2.4](#Section_5e49634084e34b73af72f38e0ab2a29a)) that specifies the [**XML namespace**](#gt_485f05b3-df3b-45ac-b8bf-d05f5d185a24) for use in [**XPath**](#gt_9ec9a242-d5db-4c3b-8aeb-61708ee75045) expressions.

###### 2.1.7.22.1.2 Schema

The **Schema element** specifies an [**XML schema**](#gt_bd0ce6f9-c350-4900-827e-951265294067) associated with an [**XML map**](#gt_01b93f1f-ca62-4216-82d5-b6154e925c9f). The contents of this element MUST be an [**XSD**](#gt_c7e91c99-e45a-44c2-a08a-c34f137a2cae), as specified in [[XMLSCHEMA1]](https://go.microsoft.com/fwlink/?LinkId=90608) and [[XMLSCHEMA2]](https://go.microsoft.com/fwlink/?LinkId=90610).

**ID:** An **ST\_Xstring65535** that specifies the unique name for this attached XML schema.

**Namespace:** An **ST\_Xstring65535** that specifies the [**XML namespace**](#gt_485f05b3-df3b-45ac-b8bf-d05f5d185a24) used by the XML schema.

**SchemaRef:** An **ST\_Xstring65535** that specifies the other **Schema elements** in this parent **MapInfo element** (section [2.1.7.22.1.1](#Section_a7ea1bde730c4ef3bc9379f78f793aab)) that contain XML schemas that the XML schema for this **Schema element** is dependent on. The value MUST specify the dependent **Schema** elements by **ID** in a space-delimited list. The **SchemaRef** attribute MUST be absent or the value MUST be empty if there are no dependencies.

###### 2.1.7.22.1.3 Map

The **Map element** specifies an [**XML map**](#gt_01b93f1f-ca62-4216-82d5-b6154e925c9f) and the behaviors expected during [**refresh**](#gt_d947dfed-8e3a-4451-b978-d69a89ae6060) operations.

**Append:** An **ST\_XmlMapBoolean** (section [2.1.7.22.2.2](#Section_67ff54e278704f6f8994eb2432722d8e)) that specifies whether [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) data overwrites or is appended to the [**table**](#gt_d3a7da8d-a597-4838-9756-25e30b640ba7) or [**range**](#gt_c2c93fec-8d3e-45de-8010-c738cc1cea99) of cells associated with the XML map on refresh.

**AutoFit:** An **ST\_XmlMapBoolean** that specifies whether columns are resized to fit the XML data after a refresh operation.

**ID:** An **ST\_XmlMapId** (section [2.1.7.22.2.3](#Section_f5c694496137446f8e60c2d6454482ef)) that specifies the identifier of the XML map.

**Name:** An **ST\_Xstring256** (section [2.1.7.22.2.5](#Section_6e4faeb05d3649918607f6165a328d56)) that specifies the name of the XML map. **Name** MUST be unique for each **Map**.

**PreserveFormat:** An **ST\_XmlMapBoolean** that specifies whether [**number formats**](#gt_16fc3e8f-047a-42fe-b28c-4856c09cd74b) in the [**sheet (1)**](#gt_0b356926-f9cb-4dc2-a859-71441d62503d) are preserved during refresh or whether the number formats specified by the [**XML schema**](#gt_bd0ce6f9-c350-4900-827e-951265294067) are used.

**PreserveSortAFlayout:** An **ST\_XmlMapBoolean** that specifies whether to reapply the [**filtering state**](#gt_23b8e882-6774-4028-924c-74fffbb370f8) of the table after a refresh.

**RootElement:** An **ST\_Xstring65535** (section [2.1.7.22.2.4](#Section_5e49634084e34b73af72f38e0ab2a29a)) that specifies the name of the root XML element.

**SchemaID:** An **ST\_Xstring65535** that specifies the name of the XML schema used for the XML map. **SchemaID** MUST equal the **ID** attribute of a **Schema** element (section [2.1.7.22.1.2](#Section_085d058b1173411ead93fddbd822f781)) contained within the parent **MapInfo** element (section [2.1.7.22.1.1](#Section_a7ea1bde730c4ef3bc9379f78f793aab)).

**ShowImportExportValidationErrors:** An **ST\_XmlMapBoolean** that specifies whether validation errors are displayed during refresh or data export.

###### 2.1.7.22.1.4 DataBinding

The **DataBinding element** specifies a connection to an [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) file [**data source**](#gt_e091613c-6901-4874-b9b2-27273ead1075) that is used when the [**XML map**](#gt_01b93f1f-ca62-4216-82d5-b6154e925c9f) is refreshed.

**DataBindingLoadMode:** An **ST\_DataBindingLoadMode** (section [2.1.7.22.2.1](#Section_7c8660087ce84de883e29a0404a6fc0c)) that specifies the method for loading XML data.

**DataBindingName:** An **ST\_Xstring65535** that specifies the name for this connection. **DataBindingName** MUST be unique for each **DataBinding** element.

**FileBinding:** An **ST\_Xstring65535** that specifies the XML file data source used for [**refresh**](#gt_d947dfed-8e3a-4451-b978-d69a89ae6060). **FileBinding** MUST NOT be "true" or "false".

**FileBindingName:** An **ST\_Xstring65535** that specifies the name for the XML file data source. **FileBindingName** MUST be unique for each **DataBinding** element.

##### 2.1.7.22.2 Simple Types

The following table specifies the [**XSD**](#gt_c7e91c99-e45a-44c2-a08a-c34f137a2cae) simple types that are specific to the **XML Stream** (section [2.1.7.22](#Section_e25e01370b9c4429bd260eed92e01c35)):

| Element | Description |
| --- | --- |
| **ST\_DataBindingLoadMode** (section [2.1.7.22.2.1](#Section_7c8660087ce84de883e29a0404a6fc0c)) | This simple type specifies the method for loading [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) data related to a **DataBinding** element (section [2.1.7.22.1.4](#Section_53d6d872ee4849689d06365efeb5b416)). |
| **ST\_XmlMapBoolean** (section [2.1.7.22.2.2](#Section_67ff54e278704f6f8994eb2432722d8e)) | This simple type specifies Boolean values. |
| **ST\_XmlMapId** (section [2.1.7.22.2.3](#Section_f5c694496137446f8e60c2d6454482ef)) | This simple type is an integral value that specifies the identifier of an **XML map** (section [2.1.7.22.1.3](#Section_82224f3b936a44cbbec1b0992d1a1281)) in the **XML Stream** (section 2.1.7.22). |
| **ST\_Xstring65535** (section [2.1.7.22.2.4](#Section_5e49634084e34b73af72f38e0ab2a29a)) | This simple type is a string that MUST NOT exceed 65,535 [**Unicode**](#gt_c305d0ab-8b94-461a-bd76-13b40cb8c4d8) characters. |
| **ST\_Xstring256** (section [2.1.7.22.2.5](#Section_6e4faeb05d3649918607f6165a328d56)) | This simple type is a string that MUST NOT exceed 256 Unicode characters. |

###### 2.1.7.22.2.1 ST\_DataBindingLoadMode

The **ST\_DataBindingLoadMode** simple type specifies the method for loading [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) data related to a **DataBinding** element (section [2.1.7.22.1.4](#Section_53d6d872ee4849689d06365efeb5b416)).

The following are possible enumeration values for this type:

|  |  |
| --- | --- |
| **Enumeration Value** | **Description** |
| 0 | None. |
| 1 | Normal. |
| 2 | Delay Load. |
| 3 | Asynchronous. |
| 4 | Object Model. |

###### 2.1.7.22.2.2 ST\_XmlMapBoolean

The **ST\_XmlMapBoolean** simple type defines **Boolean** values (section [2.5.14](#Section_ae6bc85a10f94f2d868842913466c971)).

The following are possible enumeration values for this type:

|  |  |
| --- | --- |
| **Enumeration Value** | **Description** |
| false | False Boolean value. |
| true | True Boolean value. |

###### 2.1.7.22.2.3 ST\_XmlMapId

The **ST\_XmlMapId** simple type is an integral value that specifies the identifier of an **XML map** (section [2.1.7.22.1.3](#Section_82224f3b936a44cbbec1b0992d1a1281)) in the **XML Stream** (section [2.1.7.22](#Section_e25e01370b9c4429bd260eed92e01c35)). **ST\_XmlMapId** MUST be greater than or equal to 1 and less than or equal to 2147483647.

###### 2.1.7.22.2.4 ST\_XmlString65535

The **ST\_XmlString65535** simple type is a string that MUST NOT exceed 65,535 [**Unicode**](#gt_c305d0ab-8b94-461a-bd76-13b40cb8c4d8) characters.

###### 2.1.7.22.2.5 ST\_XmlString256

The **ST\_XmlString256** simple type is a string that MUST NOT exceed 256 [**Unicode**](#gt_c305d0ab-8b94-461a-bd76-13b40cb8c4d8) characters.