

[MS-WSSDM2]: Windows SharePoint Services: Content Database Data Migration Communications Version 2 Protocol Specification

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Table of Contents

1	Introduction	7
1.1	Glossary	7
1.2	References.....	9
1.2.1	Normative References.....	9
1.2.2	Informative References	10
1.3	Protocol Overview (Synopsis)	10
1.4	Relationship to Other Protocols.....	10
1.5	Prerequisites/Preconditions	10
1.6	Applicability Statement.....	11
1.7	Versioning and Capability Negotiation.....	11
1.8	Vendor-Extensible Fields.....	11
1.9	Standards Assignments	11
2	Messages.....	12
2.1	Transport.....	12
2.2	Common Data Types	12
2.2.1	Simple Data Types and Enumerations	12
2.2.2	Simple Data Types	12
2.2.2.1	Web Part Moderation.....	12
2.2.2.2	Web Part Scope.....	12
2.2.3	Bit Fields and Flag Structures.....	12
2.2.3.1	Security Group Membership Flag	12
2.2.4	Enumerations	13
2.2.4.1	Deployment Object Type	13
2.2.5	Binary Structures	14
2.2.6	Result Sets.....	14
2.2.7	Tables and Views	14
2.2.7.1	Links Table	14
2.2.7.2	WebParts Table	14
2.2.7.3	WebPartLists Table	15
2.2.7.4	#WebParts Table	15
2.2.8	XML Structures	15
2.2.8.1	Namespaces	15
2.2.8.2	Simple Types	15
2.2.8.3	Complex Types.....	15
2.2.8.4	Elements	16
2.2.8.5	Attributes	16
2.2.8.6	Groups.....	16
2.2.8.7	Attribute Groups.....	16
3	Protocol Details.....	17
3.1	Server Details	17
3.1.1	Abstract Data Model	17
3.1.2	Timers	17
3.1.3	Initialization	17
3.1.4	Message Processing Events and Sequencing Rules.....	17
3.1.4.1	proc_DeplAddExportObject	17
3.1.4.2	proc_DeplAddExportObjectDependencies	19
3.1.4.3	proc_DeplAddExportObjectLinks	20
3.1.4.3.1	Link Count Result Set	21

3.1.4.4	proc_DeplAddIncrementalSearchScope.....	21
3.1.4.5	proc_DeplAddSite	22
3.1.4.6	proc_DeplCalculateChildrenToExport	22
3.1.4.7	proc_DeplCalculateIncrementalSearchScope	23
3.1.4.8	proc_DeplExportGroups	24
3.1.4.8.1	Security Group Information Result Set	24
3.1.4.8.2	Security Group Memberships Result Set	25
3.1.4.9	proc_DeplExportGroupX	25
3.1.4.9.1	Security Group Change Result Set	26
3.1.4.10	proc_DeplExportRoleAssignments	26
3.1.4.10.1	Scope Information Result Set.....	27
3.1.4.10.2	Role Assignment Information Result Set.....	28
3.1.4.11	proc_DeplExportRoleAssignmentX	28
3.1.4.11.1	Role Assignment Change Result Set.....	29
3.1.4.12	proc_DeplExportRoles	30
3.1.4.12.1	Role Information Result Set	30
3.1.4.13	proc_DeplExportRoleX	31
3.1.4.13.1	Role Change Result Set	31
3.1.4.14	proc_DeplExportUsers	33
3.1.4.14.1	Security Principal Information Result Set	33
3.1.4.15	proc_DeplExportUserX.....	34
3.1.4.15.1	Security Principal Change Result Set	34
3.1.4.16	proc_DeplFindScopeObject.....	35
3.1.4.17	proc_DeplFindScopeObjectById	36
3.1.4.18	proc_DeplFixWebPartsOnListCreation	37
3.1.4.19	proc_DeplGetContentTypeData	37
3.1.4.19.1	Content Type Information Result Set	38
3.1.4.20	proc_DeplGetContentTypesToParse	38
3.1.4.20.1	Content Type List Result Set	39
3.1.4.21	proc_DeplGetDocLibRootFolderUrl	39
3.1.4.22	proc_DeplGetFileData	40
3.1.4.22.1	File Information Result Set	40
3.1.4.22.2	Latest File Versions Result Set	42
3.1.4.22.3	Previous File Versions Result Set	44
3.1.4.22.4	File Web Part Result Set	44
3.1.4.22.5	Web Part Personalization Result Set.....	47
3.1.4.22.6	File Links Result Set.....	48
3.1.4.22.7	File Web Part Versions Result Set	48
3.1.4.23	proc_DeplGetFolderById	51
3.1.4.23.1	Folder Location Result Set	52
3.1.4.24	proc_DeplGetFolderData	52
3.1.4.24.1	Folder Information Result Set	53
3.1.4.25	proc_DeplGetIncrementalChanges	54
3.1.4.26	proc_DeplGetListData.....	55
3.1.4.26.1	List Information Result Set	56
3.1.4.26.2	List Web Parts Result Set	60
3.1.4.26.3	Event Receivers Result Set	63
3.1.4.26.4	Deleted Fields Result Set	64
3.1.4.26.5	Deleted Views Result Set.....	64
3.1.4.26.6	Deleted Content Types Result Set.....	65
3.1.4.26.7	Null List Result Set	65
3.1.4.26.8	Null List Result Set Two.....	65
3.1.4.26.9	Null List Result Set Three	66

3.1.4.26.10	List User Custom Actions Result Set	66
3.1.4.26.11	List Unique Resources Result Set	66
3.1.4.26.12	List All Resources Result Set	67
3.1.4.27	proc_DeplGetListItemAndReserveId	67
3.1.4.28	proc_DeplGetListItemByDocId	69
3.1.4.29	proc_DeplGetListItemByUrl	69
3.1.4.30	proc_DeplGetListItemData	70
3.1.4.30.1	List Item Data Result Set	71
3.1.4.30.2	Field Data Result Set	73
3.1.4.30.3	Multi Lookup Result Set	74
3.1.4.30.4	List Item Versions Result Set	75
3.1.4.30.5	Versions Fields Data Result Set	77
3.1.4.30.6	Versions Multi Lookup Result Set	78
3.1.4.30.7	List Item Links Result Set	79
3.1.4.30.8	Attachments Result Set	80
3.1.4.30.9	Missing List Result Set	80
3.1.4.30.10	List Item Event Receivers Result Set	81
3.1.4.30.11	List Item Solutions Result Set	82
3.1.4.31	proc_DeplGetLookupItemData	83
3.1.4.31.1	Lookup Data Result Set	83
3.1.4.32	proc_DeplGetLookupListUrl	83
3.1.4.33	proc_DeplGetNextObjectBatch	84
3.1.4.33.1	Export Object Batch Result Set	84
3.1.4.34	proc_DeplGetParentWebIdForList	85
3.1.4.34.1	Parent Site Result Set	86
3.1.4.35	proc_DeplGetParentWebIdFromDocId	86
3.1.4.35.1	Document Container Result Set	86
3.1.4.36	proc_DeplGetParentWebIdFromDocUrl	87
3.1.4.36.1	Location Result Set	87
3.1.4.37	proc_DeplGetRootObjects	87
3.1.4.37.1	Root Objects Result Set	88
3.1.4.38	proc_DeplGetSystemObjects	88
3.1.4.38.1	System Objects Result Set	89
3.1.4.39	proc_DeplOrderExportObjects	89
3.1.4.40	proc_DeplReserveNextAvailableId	89
3.1.4.41	proc_DeplUpdateWebProperties	90
3.1.4.42	proc_FileExists	91
3.1.5	Timer Events	92
3.1.6	Other Local Events	92
3.2	Client Details	92
3.2.1	Abstract Data Model	92
3.2.2	Timers	92
3.2.3	Initialization	92
3.2.4	Message Processing Events and Sequencing Rules	92
3.2.4.1	Export Sequence	93
3.2.4.2	Incremental Export Sequence	94
3.2.4.3	Link Documents Export Sequence	95
3.2.4.4	Unused Web Parts Removal Sequence	96
3.2.5	Timer Events	97
3.2.6	Other Local Events	97
4	Protocol Examples	98
4.1	Export a List	98

4.2	Import a List	122
4.3	Remove Unused Web Parts After Importing a File	134
5	Security	137
5.1	Security Considerations for Implementers	137
5.2	Index of Security Parameters	137
6	Appendix A: Product Behavior	138
7	Change Tracking.....	139
8	Index	140

1 Introduction

The SharePoint Content Database Data Migration Communications protocol specifies the APIs used by a front-end Web server to retrieve objects and their meta information from the back-end database servers to do data migration. It also provides helper APIs to be used in conjunction with other protocols to import data objects into back-end database servers.

1.1 Glossary

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

Active Directory
GUID
serialize
XML

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

assembly name
attachment
audit flag
back-end database server
base view identifier
change log
change log identifier
checked out
content database
content type
content type identifier
current version
custom action
customizable
data source
default form
deployment package
directory name
display name
displayed version
document
document identifier
document library
document stream
domain group
draft
event
export operation
feature
field
field definition
file
folder
folder identifier
forward link
front-end Web server
fully qualified class name

group
hyperlink
incremental export operation
incremental search scope table
leaf name
link
link document
list
list identifier
list item
login name
major version
metadict
migration system objects
minor version
mobile device
moderation status
navigation structure
page type
permission
picture library
publish
published version
publishing level
Recycle Bin
request identifier
resource identifier
resource token
result set
return code
role
role assignment
role identifier
root folder
security group
security group identifier
security principal
security provider
security scope
server-relative URL
site
site collection
site collection identifier
site definition
site identifier
site template
solution gallery
stored procedure
store-relative form
subsite
SystemID
theme
Transact-Structured Query Language (T-SQL)
Uniform Resource Locator (URL)
user identifier

user information list
user interface (UI) version
view
Web Part
Web Part zone
Welcome page
XML document

The following terms are specific to this document:

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

1.2 References

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[MSDN-TSQL-Ref] Microsoft Corporation, "Transact-SQL Reference", [http://msdn.microsoft.com/en-us/library/ms189826\(SQL.90\).aspx](http://msdn.microsoft.com/en-us/library/ms189826(SQL.90).aspx)

[MS-FPSE] Microsoft Corporation, "[FrontPage Server Extensions Remote Protocol Specification](#)".

[MS-SQL] Microsoft Corporation, "SQL Server 2000 Architecture and XML/Internet Support", Volume 1 of Microsoft SQL Server 2000 Reference Library, Microsoft Press, 2001, ISBN 0-7356-1280-3, [http://msdn.microsoft.com/en-us/library/dd631854\(v=SQL.10\).aspx](http://msdn.microsoft.com/en-us/library/dd631854(v=SQL.10).aspx)

[MS-TDS] Microsoft Corporation, "[Tabular Data Stream Protocol Specification](#)".

[MS-WPPS] Microsoft Corporation, "[Web Part Pages Web Service Protocol Specification](#)"

[MS-WSSCAML] Microsoft Corporation, "[Collaborative Application Markup Language \(CAML\) Structure Specification](#)"

[MS-WSSDLIM2] Microsoft Corporation, "[Windows SharePoint Services: Content Database Document and List Item Management Communications Version 2 Protocol Specification](#)"

[MS-WSSFO2] Microsoft Corporation, "[Windows SharePoint Services \(WSS\): File Operations Database Communications Version 2 Protocol Specification](#)".

[MS-WSSPROG2] Microsoft Corporation, "[Windows SharePoint Services: Content Database Programmability Extensions Communications Version 2 Protocol Specification](#)"

[MS-WSSTS] Microsoft Corporation, "[Windows SharePoint Services Technical Specification](#)"

[RFC2068] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2068, January 1997, <http://www.ietf.org/rfc/rfc2068.txt>

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

1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

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

1.3 Protocol Overview (Synopsis)

This document specifies a protocol that enables a **front-end Web server** to communicate with **back-end database servers** to perform data migration. This protocol allows a front-end Web server to retrieve data objects from the back-end database servers or to store data objects into back-end database servers. The protocol defines a number of APIs, each of which is responsible for retrieving one particular type of data object. There are certain sequence orders that the application is required to use to correctly retrieve the data objects. For example, once the data objects are retrieved from the back-end database servers, the application could **serialize** them into a file format such as the **deployment package**.

This protocol is intended to support the following 4 main scenarios:

- Export all data objects from a **site**.
- Export a list of data objects specified by the protocol client.
- Export all data objects that have been modified since a given point in time.
- Import data objects into back-end database servers using APIs from this protocol as well as [\[MS-WSSF02\]](#) and [\[MS-WSSDLIM2\]](#).

1.4 Relationship to Other Protocols

The following diagram shows the transport stack that the protocol uses:

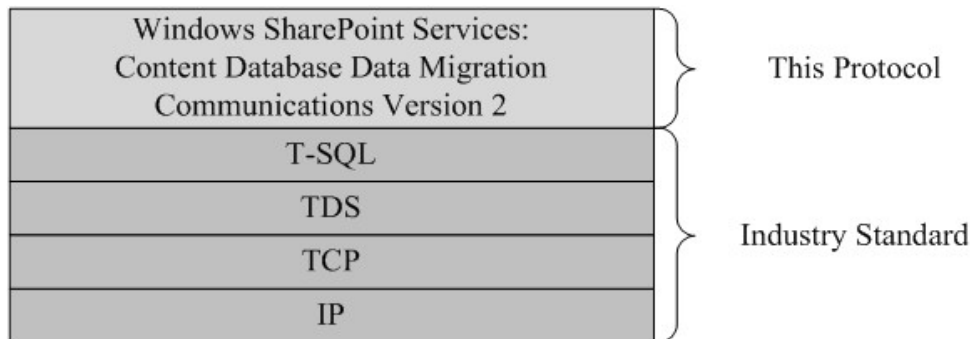


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

The protocol describes operations between a client and a back-end database server on which the databases are stored. The client is expected to know the location and connection information for those databases.

This protocol requires that the protocol client has appropriate permissions to call the **stored procedures** stored on the back-end database server.

1.6 Applicability Statement

This protocol is intended to be used to import and export data objects from within the same **site collection**.

This protocol is intended for use by protocol clients and protocol servers that are both connected by high-bandwidth, low latency network connections.

1.7 Versioning and Capability Negotiation

- **Security and Authentication Methods:** This protocol supports the SSPI and SQL Authentication with the Protocol Server role specified in [\[MS-TDS\]](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

[\[MS-TDS\]](#) is the transport protocol used to call the stored procedures, query SQL views or SQL tables, return result codes, and return **result sets**.

2.2 Common Data Types

The following are common data types used in conjunction with this protocol.

2.2.1 Simple Data Types and Enumerations

2.2.2 Simple Data Types

2.2.2.1 Web Part Moderation

The **view** type of which user can see certain **documents** in a moderated **list**.

Value	Description
'Contributor'	System-created user's view of a moderated list, which displays a user's list items awaiting moderation in a moderated list.
'Moderator'	System-created moderator's View of a moderated list, which displays list items which are pending approval.
"	Use default behavior. If this is a moderated list, hide all unapproved list items. This value MUST be used if the list is not moderated. If this is not a moderated list, list items MUST NOT be hidden based on their moderation status .

2.2.2.2 Web Part Scope

The type of which documents are shown in the current view.

Value	Description
'Recursive'	Displays all files in the list recursively from the specified folder . Does not display folders.
'RecursiveAll'	Displays all files and folders in the list recursively from the specified folder.
'FilesOnly'	Displays all files that are immediate child files of the current folder. Does not display any list items that are Folders.
"	Displays all files and folders that are immediate child files or folders of the current folder.

2.2.3 Bit Fields and Flag Structures

2.2.3.1 Security Group Membership Flag

A 4 byte integer bit mask that controls how a **security group**'s memberships are managed. The bits that are allowed are defined in the following table. If no bits are set, any can user to see the security group's membership, only the owner of this security group can change group membership,

the user is not allowed to send requests to leave or join this security group and requests to join or leave this security group are not automatically approved.

Value	Description
0x00000001	Only allow members of the site group to view the membership.
0x00000002	Allow members of the site group to edit the membership of the site group.
0x00000004	Allow users to request membership in this site group, and allow users to request to leave the site group. All requests MUST be sent to the e-mail address specified by RequestEmail.
0x00000008	Automatically accept user requests to join or leave the site group. If this bit is set, bit 0x00000004 MUST also be set as well.

2.2.4 Enumerations

2.2.4.1 Deployment Object Type

The type of data objects being exported or imported. The possible values are listed in the following table:

Value	Export Object Type
0	Site collection
1	Site
2	Folder
3	List
4	List item
5	File
6	Folder in a list.
7	File in a list.
8	Content type
9	Navigation structure
10	Field
11	User
12	User change. Used only during an incremental export operation .
13	Group.
14	Group change. Used only during an incremental export operation.
15	Role.
16	Role change. Used only during an incremental export operation.
17	Role assignments

Value	Export Object Type
18	Role assignments change. Used only during an incremental export operation.
19	Feature
9999	Unknown.

2.2.5 Binary Structures

None.

2.2.6 Result Sets

None.

2.2.7 Tables and Views

2.2.7.1 Links Table

This table contains all the **Links** in the back-end database servers. The Links table MUST contain the following columns, in T-SQL (Transact-Structured Query Language). The client uses additional columns to store other metadata about Links in an implementation specific way.

```

SiteId          uniqueidentifier NOT NULL,
WebPartId       uniqueidentifier NULL,
DocId           uniqueidentifier NOT NULL,
Level           tinyint DEFAULT 1 NOT NULL,
```

SiteId: the **site collection identifier** of the site collection that contains this Web part.

WebPartId: the identifier of the Web part.

DocId: The **document identifier** of the document that contains this Web part.

Level: **publishing level** value of the document.

2.2.7.2 WebParts Table

This table contains all the **Web Parts** in the back-end database servers. The WebParts Table MUST contain the following columns, in T-SQL (Transact-Structured Query Language). The client uses additional columns to store other metadata about the Web parts in an implementation specific way.

```

tp_SiteId       uniqueidentifier NOT NULL,
tp_ID           uniqueidentifier NOT NULL,
tp_PageUrlID    uniqueidentifier NOT NULL,
tp_UserID       int,
tp_Level        tinyint DEFAULT 1 NOT NULL,
```

tp_SiteId: the site collection identifier of the site collection that contains this Web part.

tp_ID: the identifier of the Web part.

tp_PageUrlId: The document identifier of the document that contains this Web part.

tp_UserID: When this value is set to NULL, it indicates that this Web part is visible to everyone. If the value is not NULL, it indicates that this Web part is a personal Web part, and is visible only to the user whose identifier equals this value.

tp_Level: publishing level value of the Web part.

2.2.7.3 WebPartLists Table

Each row in this table represents a Web part in a list that is stored in the back-end database servers. This table **MUST** contain the following columns, in T-SQL. The client uses additional columns to store other metadata about the Web parts in an implementation specific way.

tp_SiteId	uniqueidentifier NOT NULL,
tp_PageUrlId	uniqueidentifier NOT NULL,
tp_WebPartId	uniqueidentifier NOT NULL,
tp_Level	tinyint DEFAULT 1 NOT NULL;

tp_SiteId: the site collection identifier of the site collection that contains this Web part.

tp_PageUrlId: The document identifier of the document that contains this Web part

tp_WebPartId: the identifier of the Web part.

tp_Level: Publishing level value of the Web part.

2.2.7.4 #WebParts Table

This is a temporary table created on the Back-end database server to store the identifiers of the Web parts that are referenced by a File that is being imported. The #WebParts table is defined using T-SQL syntax as follows:

```
TABLE #WebParts(  
    WebPartId          uniqueidentifier NOT NULL PRIMARY KEY  
);
```

WebPartId: Identifier of a Web part that is referenced by a file being imported.

2.2.8 XML Structures

No common XML structures are defined in this protocol.

2.2.8.1 Namespaces

None.

2.2.8.2 Simple Types

None.

2.2.8.3 Complex Types

None.

2.2.8.4 Elements

None.

2.2.8.5 Attributes

None.

2.2.8.6 Groups

None.

2.2.8.7 Attribute Groups

None.

3 Protocol Details

3.1 Server Details

3.1.1 Abstract Data Model

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

The server stores a hierarchy of objects. Operations that can be performed against the server are divided into 2 main categories: export and import. During an **export operation**, the server maintains a table of export objects and in some cases an **incremental search scope table**. These tables are used to keep track of what objects must be included in the export operation. During an import operation, the server APIs in this protocol are stateless.

3.1.2 Timers

An execution timeout timer on the protocol server governs the execution time for any requests. The amount of time is specified by a timeout value that is configured on the protocol server for all connections.

3.1.3 Initialization

A connection that uses the underlying protocol layers that are specified in section [1.4](#) MUST be established before using this protocol as specified in [\[MS-TDS\]](#).

3.1.4 Message Processing Events and Sequencing Rules

The **T-SQL** syntax for each stored procedure and result sets, and the variables they are composed of, are defined in the [\[MSDN-TSQL-Ref\]](#) protocol. In the T-SQL syntax, the variable name is followed by the type of the variable which can optionally have a length value in brackets and can optionally have a default value indicated by an equals sign followed by the default value. Unless otherwise specified, all stored procedures defined in this section are located in the content database.

For definitional clarity, a name has been assigned to any columns in the result sets that do not have a defined name in their current implementation. This does not affect the operation of the result set, as the ordinal position of any column with no defined name is expected by the front-end Web server. Such names are designated in the text using curly braces in the form `{name}`.

3.1.4.1 proc_DeplAddExportObject

The `proc_DeplAddExportObject` Stored Procedure is called during an Export Operation to add a data object to the table of export objects. The `proc_DeplAddExportObject` is defined using **T-SQL** syntax, as follows:

```
PROCEDURE proc_DeplAddExportObject (
    @SiteId          uniqueidentifier,
    @Id              uniqueidentifier,
    @Url             nvarchar(260),
    @Type            tinyint,
    @IncludeDescendants tinyint,
```

```

@IsMajorFileOnly      int,
@IsLink               tinyint,
@IsSelected           tinyint,
@RequestGuid          uniqueidentifier = NULL OUTPUT
);

```

@SiteId: The site collection identifier for the **Site Collection** that contains the object.

@Id: The data object to be exported. If this parameter is NULL, the @Url parameter will be used to determine the data object. The exact meaning of this parameter is determined by the @Type parameter. For example, if the @Type is 1, then @Id is the **site identifier** of a site, if the @Type is 3, then @Id is the **list identifier** of a list, and so on.

@Url: The **store-relative form** of the object to be exported. If this parameter is NULL, the @Id parameter will be used to determine the data object. If both @Id and @Url are not NULL, @Url will be used.

@Type: An 8 bit integer value that specifies the type of the data object to be exported. The parameter is only meaningful when either @Id or @Url is not NULL. It MUST be one of the following values:

Value	Data Object Type
1	Site
2	Folder
3	List
4	List item
5	Document

@IncludeDescendants: This parameter specifies whether the child objects of this object MUST be included in the Export Operation. This Stored Procedure will save this value in the table of export objects. When [proc_DeplCalculateChildrenToExport](#), specified in section 3.1.4.6, is called, it reads this value and adds the child objects of this object to the table of export objects. The settings only affect objects with @Type of 1, 2, or 3. This parameter MUST be one of the following values:

Value	Description
0	When @Type is 2, subfolders and their descendants MUST NOT be exported. When @Type is 1, subsites MUST NOT be exported. When @Type is 3, list items from the list MUST NOT be exported.
1	When @Type is 2, subfolders and their descendants MUST NOT be exported. When @Type is 1, Subsites MUST NOT be exported. When @Type is 3, list items from the list MUST be exported.
2	When @Type is 2, subfolders and their descendants MUST be exported. When @Type is 1, Subsites MUST be exported. When @Type is 3, list items from the list MUST be exported.

@IsMajorFileOnly: This parameter MUST be either 0 or 1. When set to 1, this stored procedure will only add the data object to the table of export objects if it is a **major version**. Otherwise, this stored procedure will add the data object if it is either a major version or **minor version**. It only takes effect when the @Type parameter is of value 4 or 5.

@IsLink: This parameter MUST be either 0 or 1. When set to 1, this parameter indicates that the object being exported is a **link document**. Otherwise, the object is not a link document. It only takes effect when the @Type parameter is of value 2, 4, or 5.

@IsSelected: This parameter MUST be either 0 or 1. When set to 0, it indicates that the object is being exported as part of Export Operation of a full **Site**. Otherwise, it indicates that the client has chosen to export a list of objects smaller than a site, including this one.

@RequestGuid: The optional **request identifier** for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
2	This value MUST be returned if the object specified by the @Url parameter could not be found, or if @SiteId is NULL. This value MUST be returned if @id specifies an empty GUID .
87	Invalid parameter. This value MUST be returned if the @Id is NULL, or @Type does not have a value specified in its description

Result Sets: MUST NOT return any result sets.

3.1.4.2 proc_DeplAddExportObjectDependencies

The **proc_DeplAddExportObjectDependencies** Stored Procedure is called during an export operation to add additional, dependent objects that are necessary to correctly persist the state of the objects. The following objects are considered dependency objects:

1. If the object is a site: the **root folder** of the site, the **migration system objects** (which includes folders with names "Lists", "_cts", "_private" and "_catalogs"), the catalog lists (which are lists created by the system), Fields and content types, **Welcome pages**, navigation structures, roles and role assignments are dependent objects.
2. If the object is a list: the Root Folder and Documents in the list (including the template Documents) are dependent objects.
3. If the object is a folder: the list item associated with this folder is a dependent object
4. If the object is a document: the list item associated with this document is a dependent object
5. If the object is a list Item: the Document and Content Types associated with this list item are dependent objects.

proc_DeplAddExportObjectDependencies is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplAddExportObjectDependencies(  
    @SiteId                uniqueidentifier,  
    @IsMajorFileOnly       int,  
    @LinksOnly             tinyint,  
    @RequestGuid           uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** whose content will be exported.

@IsMajorFileOnly: This parameter MUST be either 0 or 1. When set to 1, this Stored Procedure will only add Documents whose latest versions are major versions. When set to 0, this Stored Procedure will add Documents whose latest versions are either major versions or minor versions.

@LinksOnly: This parameter MUST be either 0 or 1. When set to 1, this Stored Procedure will only add dependencies for link documents in the table of export objects. When set to 0, this Stored Procedure will add dependencies for non-link documents in the table of export objects.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
87	Invalid Parameter. This is returned when @SiteId IS NULL

Result Sets: MUST NOT return any result sets.

3.1.4.3 proc_DeplAddExportObjectLinks

The proc_DeplAddExportObjectLinks Stored Procedure is called during an Export Operation to add additional Documents to the table of export objects. The additional Documents are those which are referenced (in their content) by items already in the table of export objects. This Stored Procedure will only add Documents that belong to the same Site Collection as the Documents making the reference. proc_DeplAddExportObjectLinks is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplAddExportObjectLinks(  
    @SiteId                uniqueidentifier,  
    @IsMajorFileOnly        tinyint,  
    @RequestGuid            uniqueidentifier = NULL OUTPUT  
) ;
```

@SiteId: The site collection identifier for the **Site Collection** whose content will be exported.

@IsMajorFileOnly: This parameter MUST be either 0 or 1. When set to 1, this Stored Procedure will only add Documents whose latest versions are major versions. When set to 0, this Stored Procedure will add Documents whose latest versions are either major versions or minor versions.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
87	Invalid parameter value. @SiteId is NULL

Result Sets: MUST return the following Result Set:

3.1.4.3.1 Link Count Result Set

The Link Count Result Set contains at most one row. The Result Set returns the number of Documents it finds and adds them to the list of objects that will be exported. If @SiteId cannot be found or does not exist, the Result Set will still return one row with {LinkCount} =0.

The Link Count Result Set is defined using T-SQL syntax, as follows:

```
{LinkCount}                int;
```

{LinkCount}: Specifies the number of Documents found and added to the table of export objects.

3.1.4.4 proc_DeplAddIncrementalSearchScope

The proc_DeplAddIncrementalSearchScope Stored Procedure is called during an Export Operation to add a Site to the Incremental Search Scope Table.

proc_DeplAddIncrementalSearchScope is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplAddIncrementalSearchScope (
    @SiteId                uniqueidentifier,
    @Id                    uniqueidentifier,
    @Url                   nvarchar(260),
    @Type                  tinyint,
    @IncludeDescendants     tinyint,
    @IsMajorFileOnly       int,
    @ChangeTimeStart       datetime,
    @ChangeNumberStart     int,
    @RequestGuid            uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** that contains the data objects to be exported.

@Id: The **Site** that is being added to the Incremental Search Scope Table.

@Url: The **Store-Relative Form** of the Site. If this parameter is NULL, the Stored Procedure MUST look up the **URL** of the Site using the @Id parameter.

@Type: This MUST be 1.

@IncludeDescendants: Refer to the @IncludeDescendants parameter of [proc_DeplAddExportObject](#) for a complete list of acceptable values of this parameter. This Stored Procedure will save this value to the Incremental Search Scope table.

@IsMajorFileOnly: Reserved. This parameter's value MUST be ignored.

@ChangeTimeStart: This parameter specifies a time stamp in UTC (Coordinated Universal Time). Only changes made after this time will be included in the Export Operation. This Stored Procedure will save this value to the Incremental Search Scope table.

@ChangeNumberStart: This parameter specifies a **change log** identification number. Only changes with a larger identification number than this value will be included. This Stored Procedure will save this value to the Incremental Search Scope table.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
2	Cannot find a Site with site identifier equal to the specified @Id, or a Store-Relative Form equal to the specified @Url
87	Invalid parameter. This is returned when the @Type is not 1. Or both @Id and @Url are NULL

Result Sets: MUST NOT return any result sets.

3.1.4.5 proc_DeplAddSite

The proc_DeplAddSite Stored Procedure is called during an **Export Operation** to add a **Site Collection** whose data objects will be exported to the table of export objects. This Stored Procedure will not add any actual data objects. The data objects are added by calling [proc_DeplAddExportObject](#), specified in section [3.1.4.1](#). proc_DeplAddSite is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplAddSite (  
    @SiteId                uniqueidentifier,  
    @RequestGuid            uniqueidentifier = NULL OUTPUT  
) ;
```

@SiteId: The site collection identifier for the **Site Collection** whose data objects will be exported.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
87	Invalid parameter value. @SiteId is NULL

Result Sets: MUST NOT return any result sets.

3.1.4.6 proc_DeplCalculateChildrenToExport

The proc_DeplCalculateChildrenToExport Stored Procedure is called to recursively expand the table of export objects to include the child objects of the objects that are currently stored in the table of export objects. The following objects are considered child objects:

- If the object is a Folder, all Documents and Subfolders are considered child objects.
- If the object is a Site, all the Subsites are child objects of this Site. Additionally, the Navigation Structure of this Site, the roles and role assignments of this Site, and all the lists in this Site are considered child objects.
- If the object is a Document that belongs to a **document library**, the list items associated with this Document is considered child object.

proc_DeplCalculateChildrenToExport is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplCalculateChildrenToExport (
    @SiteId                uniqueidentifier,
    @IsMajorFileOnly        int,
    @LinksOnly              tinyint,
    @IncludeUserInfo        bit,
    @RequestGuid            uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** whose content is being exported.

@IsMajorFileOnly: This parameter MUST be either 0 or 1. When set to 1, this Stored Procedure will only add Documents whose last version is major versions to the table of export objects. Otherwise, this Stored Procedure will add Documents whose last version is either major or minor.

@LinksOnly: This parameter MUST be either 0 or 1. When set to 1, this Stored Procedure will only add child objects for link documents in the table of export objects. When set to 0, this Stored Procedure will add child objects for non-link documents in the table of export objects.

@IncludeUserInfo: This parameter MUST be either 0 or 1. When set to 1, this Stored Procedure will allow lists, Folders and list items from the **user information list** to be included as child objects. When set to 0, those objects will not be included as child objects. .

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
87	Invalid Parameter. This code is returned when @SiteId is NULL

Result Sets: MUST NOT return any result sets.

3.1.4.7 proc_DeplCalculateIncrementalSearchScope

The proc_DeplCalculateIncrementalSearchScope Stored Procedure is called to add Subsites into an Incremental Search Scope Table, if necessary. The Incremental Search Scope Table is created by calling [proc_DeplAddIncrementalSearchScope](#). The @IncludeDescendants parameter passed to proc_DeplAddIncrementalSearchScope decides whether Subsites MUST be included for a Site in the Incremental Search Scope Table when this Stored Procedure is called.

proc_DeplCalculateIncrementalSearchScope is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplCalculateIncrementalSearchScope(
    @SiteId                uniqueidentifier,
    @RequestGuid            uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** that contains the Sites in the Incremental Search Scope Table.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: proc_DeplCalculateIncrementalSearchScope returns an integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
87	Invalid Parameter. This is returned when the @SiteId is NULL.

Result Sets: proc_DeplCalculateIncrementalSearchScope MUST NOT return any result sets.

3.1.4.8 proc_DeplExportGroups

The proc_DeplExportGroups Stored Procedure is called to retrieve information about one Security Group from the back-end database servers. To retrieve all security groups from a Site Collection, a client application calls this Stored Procedure with @GroupIdCur = -1, and then calls this Stored Procedure iteratively, each time with a bigger @GroupIdCur parameter, by using the value in the ID column of the [Security Group Information result set](#), from the previous call.

proc_DeplExportGroups is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportGroups(  
    @SiteId            uniqueidentifier,  
    @GroupIdCur        int,  
    @RequestGuid        uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** which contains the Security Group.

@GroupIdCur: A **security group identifier**. This Stored Procedure will only return the next Security Group whose identifier is larger than this value.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return two result sets in the following order:

3.1.4.8.1 Security Group Information Result Set

The Security Group Information Result Set returns information about a Security Group and MUST contain at most one row.

The Security Group Information Result Set is defined using T-SQL syntax, as follows:

```
ID                int,  
Title              nvarchar(255),  
Description        nvarchar(512),  
Owner              int,  
OwnerIsUser        bit,  
RequestEmail       nvarchar(255),  
Flags              int;
```

ID: The site security group identifier.

Title: The name of this Security Group.

Description: The description of this Security Group.

Owner: The security group identifier of the owner of this Security Group. This could be either a **security principal** identifier, or a security group identifier. The value of OwnerIsUser MUST be used to determine which one is the case.

OwnerIsUser: This MUST be either 0 or 1. When set to 1, the owner of this Security Group is a security principal. When set to 0, the owner is any member from this Security Group.

RequestEmail: The e-mail address where a user could send a request to join or leave the Security Group.

Flags: A value specified in section 2.2.2.1, [Security Group Membership Flag](#).

3.1.4.8.2 Security Group Memberships Result Set

The Security Group Memberships Result Set returns the list of security principals that are members of this Security Group. This Result Set MUST contain a number of rows equals to the number of the members in this Security Group. If the Security Group contains no members, this Result Set MUST return 0 rows.

The Security Group Memberships Result Set is defined using T-SQL syntax, as follows:

```
MemberId                int;
```

MemberId: The security principal identifier of this member.

3.1.4.9 proc_DeplExportGroupX

The proc_DeplExportGroupX Stored Procedure is called during an incremental Export Operation to retrieve information about changes made to a security Group.

proc_DeplExportGroupX is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportGroupX(  
    @SiteId                uniqueidentifier,  
    @EventTime              datetime,  
    @ChangeLogId            bigint,  
    @RequestGuid            uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** containing security groups.

@EventTime: The time stamp, in UTC, of an **event** from the Change Log which records modification made to this security Group.

@ChangeLogId: The **change log identifier** of the same Event as described in @EventTime.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.9.1 Security Group Change Result Set

The Security Group Change Result Set returns information about changes made to a security Group. The Security Group Change Result Set will return one row if the Event specified by @ChangeLogId is found. Otherwise, the Result Set will contain 0 rows.

The Security Group Change Result Set is defined using T-SQL syntax, as follows:

```
EventType      int,
ID              int,
Title           nvarchar(255),
Description     nvarchar(512),
tp_Login        nvarchar(255),
OwnerIsUser     bit,
tp_Id           int,
tp_Login        nvarchar(255),
RequestEmail    nvarchar(255),
Flags           int;
```

EventType: An Event Type Flag, specified in [\[MS-WSSDLIM2\]](#) section 2.2.3.2.

ID: The security group identifier.

Title: The name of this security Group.

Description: The description of this security Group.

tp_Login: The **login name** of the security principal which is the owner of this security Group. If the owner of this security Group is not a security principal, this value MUST be NULL.

OwnerIsUser: This MUST be either 0 or 1. When set to 1, the owner of this security Group is a security principal. When set to 0, any Member from this security Group is an owner.

tp_Id: An integer identifier of the security principal that is added to or removed from the security Group. When **{EventType}** = 2097152, this value represents the security principal to add to the security Group. When **{EventType}** = 4194304, this value represents the security principal to remove from the security Group. For any other value of **{EventType}**, this value MUST be NULL.

tp_Login: The login name of the security principal whose identifier is **{tp_Id}**. This value MUST be NULL if **{tp_Id}** is NULL.

RequestEmail: The e-mail address where a user could send a request to join or leave the security Group.

Flags: A value specified in section 2.2.2.1, [Security Group Membership Flag](#).

3.1.4.10 proc_DeplExportRoleAssignments

The proc_DeplExportRoleAssignments Stored Procedure is called during an Export Operation to retrieve a list of role assignments from a Site. proc_DeplExportRoleAssignments is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportRoleAssignments(
    @SiteId          uniqueidentifier,
    @WebId            uniqueidentifier,
    @WssGroupOnly     bit,
```

```

        @ScopeIdCur        uniqueidentifier,
        @RequestGuid        uniqueidentifier = NULL OUTPUT
    );

```

@SiteId: The site collection identifier for the **Site Collection** which contains the role assignments to be retrieved.

@WebId: The site identifier for the Site from which the role assignments will be retrieved.

@WssGroupOnly: When set to 1, this Stored Procedure will only retrieve the role assignments in which a role is assigned to a security Group. Otherwise, it will retrieve all role assignments.

@ScopeIdCur: This parameter represents a **security scope**. This Stored Procedure MUST only return role assignments for a security Scope whose value is larger than this value, in increasing sorted order.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return two result sets, specified in the following order:

3.1.4.10.1 Scope Information Result Set

The Scope Information Result Set returns information about a security Scope where role assignments are defined. This Result Set MUST return at most one row. If any of the parameters are incorrectly specified, this Result Set MUST return 0 rows.

The Scope Information Result Set is defined using T-SQL syntax, as follows:

```

SiteId                uniqueidentifier,
WebId                 uniqueidentifier,
ScopeId               uniqueidentifier,
RoleDefWebId          uniqueidentifier,
FullUrl               nvarchar(260),
{ObjectId}            uniqueidentifier,
{ObjectType}          int,
{ScopeUrl}            nvarchar(256),
AnonymousPermMask     bigint;

```

SiteId: The site collection identifier for the **Site Collection** that contains the **security Scope**.

WebId: The site identifier for the **Site** that contains the security scope.

ScopeId: The identifier of the security scope.

RoleDefWebId: The site identifier for the Site that contains the definitions of the roles that are used in this security scope.

FullUrl: The **Store-Relative Form** of the Site that contains the definitions of the roles that are used in this **security scope**.

{ObjectId}: The root object of the security scope. The value of @ObjectType determines the type of this value.

{ObjectType}: The type of the root object of the security scope as defined in the following table:

Value	Object Type
0	Site
1	List
2	Document or list item

{ScopeUrl}: The Store-Relative Form of the root object of the security scope.

AnonymousPermMask: The **Permissions** this role allows for an anonymous user. The values of this field are specified in [\[MS-WSSFO2\]](#) section 2.2.3.14.

3.1.4.10.2 Role Assignment Information Result Set

The Role Assignment Information Result Set returns a list of role assignments. The number of rows in the Role Assignment Information Result Set is equal to the number of role assignments defined on the security scope returned by the Role Assignment Information Result Set. When @WssGroupOnly is 1, the number of rows returned will be reduced to only the role assignments in which a role is assigned to a Security Group.

The Role Assignment Information Result Set is defined using T-SQL syntax, as follows:

```
RoleId          int,
PrincipalId     int,
tp_Id          int;
```

RoleId: The **role identifier**.

PrincipalId: The security principal identifier.

tp_Id: The same Security principal identifier as **{PrincipalId}** column, when **@WssGroupOnly = 0**. When **@WssGroupOnly = 1**, this value MUST be NULL.

3.1.4.11 proc_DeplExportRoleAssignmentX

The proc_DeplExportRoleAssignmentX Stored Procedure is called during an Incremental **Export Operation** to retrieve information about an Event in which one or more role assignments are modified. proc_DeplExportRoleAssignmentX is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportRoleAssignmentX(
    @SiteId          uniqueidentifier,
    @EventTime       datetime,
    @ChangeLogId     bigint,
    @RequestGuid     uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** in which the Event has occurred.

@EventTime: The time, in UTC, when this Event occurred.

@ChangeLogId: The Change Log identifier of this Event.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: If there is an Event specified by @EventTime and @ChangeLogId, then the following Result Set MUST be returned.

Otherwise, a Result Set MUST NOT be returned.

3.1.4.11.1 Role Assignment Change Result Set

The Role Assignment Change Result Set returns information about the changes that have occurred to one or more role assignment. This Result Set MUST return at most one row. The Role Assignment Change Result Set is defined using T-SQL syntax, as follows:

```
{EventType}                int,
{OpCode}                    int,
{WebId}                     uniqueidentifier,
{ScopeId}                   uniqueidentifier,
{RoleDefWebId}              uniqueidentifier,
{RoleDefWebFullUrl}         nvarchar(256),
{ScopeObjectId}             uniqueidentifier,
{ScopeObjectType}          int,
{ScopeUrl}                  nvarchar(256),
{AnonymousPermMask}         bigint,
{RoleTitle}                 nvarchar(255),
{GroupId}                   int,
{GroupTitle}                nvarchar(255),
{UserId}                    int,
{UserLogin}                 nvarchar(255);
```

{EventType}: An Event Type Flag, specified in [\[MS-WSSDLIM2\]](#) section 2.2.3.2.

{OpCode}: A Security Change Type Flag, specified in [\[MS-WSSDLIM2\]](#) section 2.2.3.3.

{WebId}: The Site in which this change has taken place.

{ScopeId}: The identifier of the security scope in which this Event has occurred.

{RoleDefWebId}: The Site that contains the definitions of the roles that are used in the security scope defined by {ScopeId}.

{RoleDefWebFullUrl}: The Store-Relative Form of the Site that contains the definitions of the roles that are used in the security scope defined by {ScopeId}.

{ScopeObjectId}: The root object of the security scope defined by {ScopeId}.

{ScopeObjectType}: The type of the object specified by {ScopeObjectId}. The value of this parameter MUST be one of the following:

Value	Object Type
0	Site
1	List
2	Document or list item

{ScopeUrl}: The Store-Relative Form of the root object of the security scope defined by {ScopeId}.

{AnonymousPermMask}: The permissions granted to anonymous Users in the security scope defined by {ScopeId}. The bit mask values are specified in [\[MS-WSSFO2\]](#) section 2.2.3.14.

{RoleTitle}: The name of the role whose assignment has changed.

{GroupId}: The security group identifier of a security group if a Security Group is assigned to the role specified by {RoleTitle} during this change. Otherwise, this value MUST be NULL.

{GroupTitle}: The name of the Security Group if it is assigned to the role (as specified by {RoleTitle}) during this change. Otherwise, this value MUST be NULL.

{UserId}: The Security principal identifier if a security principal is assigned to the role (as specified by {RoleTitle}) during this change. Otherwise, the value MUST be NULL.

{UserLogin}: The Login Name of the security principal if it is assigned to the role specified by {RoleTitle} during this change. Otherwise, this value MUST be NULL.

3.1.4.12 proc_DeplExportRoles

The proc_DeplExportRoles Stored Procedure is called to retrieve a list of roles from a Site.

proc_DeplExportRoles is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportRoles(
    @SiteId                uniqueidentifier,
    @WebId                 uniqueidentifier,
    @RoleIdCur            int,
    @RequestGuid           uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** from which the roles are being retrieved.

@WebId: The site identifier for the Site where the roles are defined.

@RoleIdCur: The role identifier. This Stored Procedure will only return roles whose IDs are larger than this value, sorted in ascending order.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.12.1 Role Information Result Set

The Role Information Result Set returns information of a list of roles. This Result Set will return 100 rows, or one row for each role, whichever is smaller. Each row contains information about a role. The Role Information Result Set is defined using T-SQL syntax, as follows:

```
SiteId                uniqueidentifier,
Id                   uniqueidentifier,
RoleId               int,
```

Title	nvarchar(255),
Description	nvarchar(512),
PermMask	bigint,
Hidden	bit,
RoleOrder	int,
Type	tinyint;

SiteId: The site collection identifier of the Site Collection where this role is retrieved.

Id: The site identifier of the Site where this role is defined.

RoleId: The role identifier.

Title: The name of the role.

Description: The description of the role.

PermMask: The permissions that this role allows. The bit mask values are specified in [\[MS-WSSFO2\]](#) section 2.2.3.14.

Hidden: MUST be either 0 or 1. When set to 1, this role MUST be hidden in the user interface.

RoleOrder: This value MUST be used to determine the order of which roles are represented in the user interface.

Type: The type of role specified in [\[MS-WSSFO2\]](#) section 2.2.4.16.

3.1.4.13 proc_DeplExportRoleX

The proc_DeplExportRoleX Stored Procedure is called during an Incremental Export Operation to retrieve information about an Event in which a role is modified. proc_DeplExportRoleX is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplExportRoleX(
    @SiteId            uniqueidentifier,
    @EventTime         datetime,
    @ChangeLogId       bigint,
    @RequestGuid       uniqueidentifier = NULL OUTPUT
);

```

@SiteId: The site collection identifier for the **Site Collection** in which this Event is being retrieved.

@EventTime: This value, in UTC, specifies when this Event has occurred.

@ChangeLogId: The Change Log identifier of this Event in the Change Log.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.13.1 Role Change Result Set

The Role Change Result Set returns information about changes that have occurred to a role. This Result Set MUST return one row in the Result Set, if the Event specified by the @EventTime and

@ChangeLogId can be found, or zero rows if the Event could not be found. The Role Change Result Set is defined using T-SQL syntax, as follows:

EventType	int,
{Operation Code}	int,
Guid0	uniqueidentifier,
Int0	int,
WebId	uniqueidentifier,
FullUrl	nvarchar(256),
RoleId	int,
Title	nvarchar(255),
ItemName	nvarchar(255),
Description	nvarchar(512),
PermMask	bigint,
Hidden	bit,
RoleOrder	int,
Type	tinyint,
tp_Id	int,
tp_Login	nvarchar(255);

EventType: An Event Type Flag, specified in [\[MS-WSSDLIM2\]](#) section 2.2.3.2.

{Operation Code}: A Security Change Type Flag, specified in [\[MS-WSSDLIM2\]](#) section 2.2.3.3.

Guid0: The identifier of the security scope where this change occurred.

Int0: If this value is NOT NULL, it MUST contain the identifier of the security principal that created the role and the Event specified by @EventTime and @ChangeLogId MUST be an Event in which a role is created, and the EventType column MUST have bit 19 (value = 262144) set. If this value is NULL, it MUST be ignored.

WebId: The Site identifier for the Site where this role is defined.

FullUrl: The Store-Relative Form URL of the Site where this role is defined.

RoleId: A role identifier, if EventType does not have bit 24 (value = 8388608) set. Otherwise, this value MUST be NULL

Title: The name of the role if RoleId is NOT NULL. Otherwise this value MUST be NULL.

ItemName: The name of the role if RoleId is NULL which occurs when a role has been deleted. Otherwise, this value MUST be NULL.

Description: The description of the role if RoleId is NOT NULL. Otherwise this value MUST be NULL.

PermMask: The permissions this role allows. If RoleId is NOT NULL, the bit mask's values are specified in [\[MS-WSSFO2\]](#) section 2.2.3.14. Otherwise this value MUST be NULL

Hidden: This value MUST be either 0 or 1. When RoleId is NOT NULL, this value specifies whether this role MUST be hidden in the user interface. Otherwise this value MUST be NULL.

RoleOrder: This value MUST be used to determine the order of which roles are represented in the user interface if RoleId is NOT NULL. Otherwise this value MUST be NULL.

Type: The type of role specified in [\[MS-WSSFO2\]](#) section 2.2.4.16. Otherwise this value MUST be NULL.

tp_Id: The same value as Int0, if Int0 is NOT NULL. Otherwise, this value MUST be NULL.

tp_login: The Login Name of the security principal represented by Int0, if Int0 is NOT NULL. Otherwise, this value MUST be NULL.

3.1.4.14 proc_DeplExportUsers

The proc_DeplExportUsers Stored Procedure is called to retrieve a list of security principals from the back-end database servers. Each time this Stored Procedure is called, it MUST return at most 100 security principals. This Stored Procedure MUST be called additional times to retrieve more security principals.

proc_DeplExportUsers is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportUsers(  
    @SiteId            uniqueidentifier,  
    @UserIdCur         int,  
    @RequestGuid        uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** that contains the security principals to be retrieved.

@UserIdCur: A security principal identifier. This Stored Procedure MUST only return security principals whose IDs are larger than this value, sorted in ascending order. The application MUST use 1 the first time it calls this Stored Procedure.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.14.1 Security Principal Information Result Set

The Security Principal Information Result Set returns information about a list of security principals. This Result Set MUST return 100 rows, or one row for each security principal, whichever is smaller. Each row contains information about one security principal. The Security Principal Information Result Set is defined using T-SQL syntax, as follows:

```
tp_SiteId            uniqueidentifier,  
tp_Id                int,  
tp_Title             nvarchar(255),  
tp_Login             nvarchar(255),  
tp_Email             nvarchar(255),  
tp_Notes             nvarchar(1023),  
tp_DomainGroup       bit,  
tp_SiteAdmin         bit,  
tp_SystemId          varbinary(512),  
tp_Deleted           int,  
tp_Mobile            nvarchar(127),  
tp_Flags             int;
```

tp_SiteId: The site collection identifier for the Site Collection that contains this security principal.

tp_Id: The security principal identifier.

tp_Title: The **display name** of the security principal. This value MUST NOT be NULL

tp_Login: The Login Name of the security principal. This value MUST NOT be NULL

tp_Email: The e-mail address of the security principal. This value MUST NOT be NULL

tp_Notes: A description of the security principal. This value MUST NOT be NULL

tp_DomainGroup: This MUST be either 0 or 1. When set to 1, it indicates that the current security principal is a **domain group** from the **Active Directory**, otherwise the value MUST be 0.

tp_SiteAdmin: This MUST be either 0 or 1. When set to 1, it indicates that the current security principal is an administrator of the containing Site Collection, otherwise the value MUST be 0.

tp_SystemId: The **SystemID** of the security principal.

tp_Deleted: A value specifying whether the security principal is marked as "deleted" within this Site Collection. If tp_Deleted is 0, the security principal is not deleted. If tp_Deleted is not 0, the security principal is marked as deleted and the value is the same as the security principal identifier.

tp_Mobile: The phone number of the security principal.

tp_Flags: A value specified in [\[MS-WSSFO2\]](#) section 2.2.3.11.

3.1.4.15 proc_DeplExportUserX

The proc_DeplExportUserX Stored Procedure is called during an Incremental Export Operation to retrieve information about an Event in which a security principal is modified. proc_DeplExportUserX is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplExportUserX(
    @SiteId          uniqueidentifier,
    @EventTime        datetime,
    @ChangeLogId      bigint,
    @RequestGuid      uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** in which the Event has occurred.

@EventTime: The time, in UTC, when the Event has occurred.

@ChangeLogId: The Change log identifier of this Event.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.15.1 Security Principal Change Result Set

The Security Principal Change Result Set returns information about changes that have occurred to a security principal. This Result Set will be returned if there is a Change Log Event that matches the @EventTime and @ChangeLogId parameter and the object modified in that event was a security

principal. This Result Set contains at most one row. If any of the parameters are incorrectly specified, or if the event could not be found, the Result Set MUST return 0 rows.

The Security Principal Change Result Set is defined using T-SQL syntax, as follows:

EventType	int,
tp_Id	int,
tp_Title	nvarchar(255),
tp_Login	nvarchar(255),
tp_Email	nvarchar(255),
tp_Notes	nvarchar(1023),
tp_DomainGroup	bit,
tp_SiteAdmin	bit,
tp_SystemId	varbinary(512)
tp_Mobile	nvarchar(127),
tp_Flags	int;

EventType: An Event Type Flag, specified in [\[MS-WSSDLIM2\]](#) section 2.2.3.2.

tp_Id: The security principal identifier.

tp_Title: The display name of the security principal. This value MUST NOT be NULL.

tp_Login: The Login Name of the security principal. This value MUST NOT be NULL.

tp_Email: The e-mail address of the security principal. This value MUST NOT be NULL.

tp_Notes: A description of the security principal. This value MUST NOT be NULL.

tp_DomainGroup: This MUST be either 0 or 1. When set to 1, it indicates that the current security principal is a **Domain Group** from the **Active Directory**.

tp_SiteAdmin: This MUST be either 0 or 1. When set to 1, it indicates that the current security principal is an administrator of the containing Site Collection.

tp_SystemId: The SystemID of the security principal.

tp_Mobile: The phone number of the security principal.

tp_Flags: A value specified in [\[MS-WSSF02\]](#) section 2.2.3.11.

3.1.4.16 proc_DeplFindScopeObject

The proc_DeplFindScopeObject Stored Procedure is called to find an object given its **Store-Relative Form** and Type. The object returned by the output parameter @ObjectId can be used to import Role Assignments during an Import Operation. proc_DeplFindScopeObject is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplFindScopeObject(
    @SiteId          uniqueidentifier,
    @ObjectUrl       nvarchar(260),
    @ObjectType      int,
    @ObjectId        uniqueidentifier OUTPUT,
    @RequestGuid     uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** in which the object is being looked up.

@ObjectUrl: The Store-Relative Form of the object that is being looked up.

@ObjectType: The expected type of the object. The value of this parameter **MUST** be one of the following:

Value	Description
0	The object is expected to be a Site.
1	The object is expected to be a list.
2	The object is expected to be a Document or list item.

@ObjectId: This is an OUTPUT parameter. If the return value is 0, this parameter will hold the identifier of the object, as specified in @ObjectType.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which **MUST** be listed in the following table:

Value	Description
0	Execution finished.
2	File not found. This is returned when the @SiteId and @ObjectUrl does not specify a valid object, or the object is not the same type as @ObjectType.

Result Sets: **MUST NOT** return any result sets.

3.1.4.17 **proc_DeplFindScopeObjectById**

The `proc_DeplFindScopeObjectById` Stored Procedure is called to find the existence of an object given its identifier and Type. The object identified in parameter @ObjectId can be used to import Role Assignments during an Import Operation. `proc_DeplFindScopeObjectById` is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplFindScopeObjectById(  
    @SiteId          uniqueidentifier,  
    @ScopeType       int,  
    @ObjectId         uniqueidentifier  
) ;
```

@SiteId: The site collection identifier for the **Site Collection** in which the object is being looked up.

@ScopeType: The expected type of the object. The value of this parameter **MUST** be one of the following:

Value	Object Type
0	Site
1	List

Value	Object Type
2	Document or list item

@ObjectId: This object identifier of type specified by @ScopeType. If the return value is 0, the object of type specified by @ScopeType exists.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
2	File not found. This is returned when the @SiteId and @ObjectId does not specify a valid object, or the object is not the same type as @ScopeType.

Result Sets: MUST NOT return any result sets.

3.1.4.18 proc_DeplFixWebPartsOnListCreation

The proc_DeplFixWebPartsOnListCreation Stored Procedure is called during an Import Operation to associate a **Web Part** with a list that has just been created. This Stored Procedure updates the Web Part information with a new list identifier.

proc_DeplFixWebPartsOnListCreation is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplFixWebPartsOnListCreation(
    @SiteId          uniqueidentifier,
    @WebPartId       uniqueidentifier,
    @OldListId       uniqueidentifier,
    @NewListId       uniqueidentifier,
    @RequestGuid     uniqueidentifier = NULL OUTPUT
);

```

@SiteId: The site collection identifier for the **Site Collection** that contains the Web Part and the list.

@WebPartId: The Identifier of the Web Part being updated.

@OldListId: The list identifier of the old list that the Web Part was associated with.

@NewListId: The list identifier of the new list that the Web Part will be associated with.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.19 proc_DeplGetContentTypeData

The proc_DeplGetContentTypeData Stored Procedure is called during an Export Operation to get a list of Content Types. The proc_DeplGetContentTypeData Stored Procedure is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplGetContentTypeData (
    @LastOrdinal      int,
    @RequestGuid      uniqueidentifier = NULL OUTPUT
);

```

@LastOrdinal: The information for all content types returned by proc_DeplGetContentTypeData MUST have values in the Ordinal column greater than @LastOrdinal. When calling proc_DeplGetContentTypeData the first time, set @LastOrdinal to 0. When calling proc_DeplGetContentTypeData to retrieve more content types, set @LastOrdinal to the largest Ordinal value returned in the previous call to proc_DeplGetContentTypeData

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.19.1 Content Type Information Result Set

The Content Type Information Result Set returns one row for each Content Type that will be exported. This Result Set will contain 50 rows, or one row for each content type, whichever is smaller. The Content Type Information Result Set is defined using T-SQL syntax, as follows:

```

Id                uniqueidentifier,
ExportObjectUrl    nvarchar(260),
Ordinal           int,
ContentTypeId      varbinary(512),
ParentWebId        uniqueidentifier,
ContentTypeListId  uniqueidentifier;

```

Id: This value MUST be ignored.

ExportObjectUrl: This value MUST be ignored.

Ordinal: The Export Ordinal number of this Content Type in the table of export objects.

ContentTypeId: The **content type identifier** of this Content Type.

ParentWebId: The site identifier for the parent Site of this Content Type.

ContentTypeListId: The list identifier of the list that contains this Content Type.

3.1.4.20 proc_DeplGetContentTypesToParse

The proc_DeplGetContentTypesToParse Stored Procedure is called during an Export Operation to get the list of Content Types which will be exported. The purpose of this Stored Procedure is to get a list of Content Types so that the application can look for additional, dependent objects that are necessary to correctly persist the state of these Content Types. If such objects are found, the application MUST call [proc_DeplAddExportObject](#) to add these objects to the table of export objects. proc_DeplGetContentTypesToParse is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplGetContentTypesToParse (
    @SiteId          uniqueidentifier,
    @LinksOnly        tinyint,
    @RequestGuid      uniqueidentifier = NULL OUTPUT
);

```

);

@SiteId: The site collection identifier for the **Site Collection** containing the Content Types.

@LinksOnly: MUST be either 0 or 1. When set to 1, this Stored Procedure will only return Content Types used by link documents. When set to 0, this Stored Procedure will only return Content Types used by Documents that are not link documents.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.20.1 Content Type List Result Set

The Content Type List Result Set returns a list of Content Types. This Result Set will include all of the Content Types which will be exported. Each row contains information about one Content Type. The Content Type List Result Set is defined using T-SQL syntax, as follows:

```
ContentTypeId      varbinary(512),
ContentTypeListId   uniqueidentifier,
ParentWebId        uniqueidentifier;
```

ContentTypeId: The content type identifier of the content type.

ContentTypeListId: The list identifier of the list that contains this Content Type.

ParentWebId: The site identifier of the Site that contains this list.

3.1.4.21 proc_DeplGetDocLibRootFolderUrl

The proc_DeplGetDocLibRootFolderUrl Stored Procedure is called to get the Store-Relative Form to the Root Folder of a document library. proc_DeplGetDocLibRootFolderUrl is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetDocLibRootFolderUrl(
    @SiteId          uniqueidentifier,
    @ListId          uniqueidentifier,
    @Url             nvarchar(1024) OUTPUT,
    @RequestGuid     uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** that contains the document library.

@ListId: The list identifier for the document library whose Root Folder's URL is to be determined.

@Url: The Store-Relative Form of the document library whose list identifier is specified by @ListId. If such a document library does not exist, the value in @Url MUST NOT be changed.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.22 proc_DeplGetFileData

The proc_DeplGetFileData Stored Procedure is called to select all the available metadata information about a File to be exported, except its **document stream**. proc_DeplGetFileData is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetFileData(  
    @SiteId            uniqueidentifier,  
    @LastOrdinal       int,  
    @VersionSetting    int,  
    @RequestGuid       uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** to operate on.

@LastOrdinal: All Files returned MUST have values in the Ordinal column greater than @LastOrdinal. When calling proc_DeplGetFileData for the first time, set @LastOrdinal to 0. During additional calls to retrieve more Files, set @LastOrdinal to the largest ordinal value returned in the previous call to proc_DeplGetFileData.

@VersionSetting: A value specifying which File versions to select for export which MUST be listed in the following table:

Value	Description
1	Export only the current major version of a File.
2	Export the current version of a File, which is either the most current Minor Version or the most current major version.
3	Export the most current major version and the most current Minor Version of the File.
4	Export all checked-in versions of the File.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return seven result sets in the following order:

3.1.4.22.1 File Information Result Set

The File Information Result Set returns one row for each individual File that needs to be exported ignoring additional versions of the file. If a File has a Publishing Level of **checked out**, it MUST NOT be returned.

The File Information Result Set MUST contain 200 rows, or one row for each file, whichever is smaller. The File Information Result Set is defined using T-SQL syntax, as follows:

```
Id                uniqueidentifier,  
ExportObjectUrl   nvarchar(260),  
Ordinal           int,  
WebId             uniqueidentifier,  
ListId            uniqueidentifier,
```


ParentId	uniqueidentifier,
ScopeId	uniqueidentifier,
DocLibRowId	int,
MetaInfo	image,
UIVersion	int,
UIVersionString	nvarchar(61),
IsGhosted	bit,
TimeCreated	datetime
TimeLastModified	datetime,
DirName	nvarchar(256),
LeafName	nvarchar(128),
SetupPath	nvarchar(255),
SetupPathUser	nvarchar(255),
SetupPathVersion	tinyint,
CheckinComment	nvarchar(1023),
AuditFlags	int,
InheritAuditFlags	int,
Level	tinyint,
HasStream	int,
Size	int,
Acl	image;

Id: The identifier of the file.

ExportObjectUrl: The full Store-Relative form URL for the file.

Ordinal: An identifier of the file that is a number used with the @LastOrdinal parameter. All rows returned MUST have an ordinal value greater than @LastOrdinal. The ordinals of all rows returned MUST be in increasing order.

WebId: The site identifier for the Site containing the file.

ListId: The list identifier of the list containing the file. If the file is not contained in a list, this value MUST be NULL.

ParentId: The identifier of the Document's parent container. The parent container could be either a folder or document library. This value MUST NOT be NULL.

ScopeId: The identifier of the scope which contains the Document.

DocLibRowId: The identifier in the document library for this item. If the file is not contained in a list, this value MUST be NULL.

MetaInfo: A **metadict** for the file. The Metadict format is specified in [\[MS-FPSE\]](#) section 2.2.2.5.3.

UIVersion: A **user interface (UI) version** number associated with the Document.

UIVersionString: A calculated column presenting the value of the user interface (UI) version column as a **displayed version** string.

IsGhosted: Indicates whether the file is ghosted or not. The value MUST be 1 if the file is Ghosted, otherwise the value MUST be 0.

TimeCreated: A timestamp in UTC specifying when this file was first created.

TimeLastModified: A timestamp in UTC. The value specifies when the file version returned was last saved. This MAY correspond to the actual time when the file was last modified.

DirName: The **directory name** of the file

LeafName: The **leaf name** of the file.

SetupPath: For a file that is now or once was Ghosted, this contains the setup path fragment relative to the base setup path specified by the SetupPathVersion value, where the document stream of this Document can be found. This value MUST be NULL if the Document was never Ghosted.

SetupPathUser: If the file is now or once was a Ghosted Document, this contains the Login Name of the user that created the Ghosted Document. This value is undefined for files that were never Ghosted Documents.

SetupPathVersion: For a Ghosted Document, this governs the SetupPath fragment starting from the template path location. The following are valid values:

Value	Description
2	The SetupPath is relative to the template location of WSSv2 on the front-end Web server.
3	The SetupPath is relative to the template location of WSSv3 on the front-end Web server.
4	The SetupPath is relative to the template location of WSSv4 on the front-end Web server.

UnVersionedMetaInfo: A Metadict for the file. The Metadict format is specified in [MS-FPSE] section 2.2.2.5.3.

CheckinComment: Comment associated with the file when this version of the file was last checked in.

AuditFlags: An **audit flags** value determining the operations to be tracked on this file.

InheritAuditFlags: An audit flags value for the operations to be tracked on this file, as determined from parent container audit flags settings.

Level: The publishing level of this version of the document.

HasStream: Identifies whether the file contents are stored in the database or on the file system. A value of 0 indicates that the file is Ghosted and stored outside of the **content database**; otherwise, this value MUST be 1.

Size: The size of the document stream in bytes. This value MUST not be NULL.

Acl: The binary serialization of the access control list, specified in [MS-WSSFO2] section 2.2.5.6, for this file. This is either explicitly defined or inherited from the file's parent object.

3.1.4.22.2 Latest File Versions Result Set

Latest File Versions Result Set MUST return one or two rows for each document that is valid to be exported. If a document has a Publishing Level of Checked Out, it will not be returned. If @VersionSetting is 1 then this result set MUST return one row for each document of Publishing Level of type **publish**. If @VersionSetting is not 1, the most current Publish and the current **draft** after the last **published version** is returned. If there is no document of type Publish and @VersionSetting is not 1 then only the most current Draft version of the document is returned. The Latest File Version Result Set will return information for the first 200 documents with ordinals greater than @LastOrdinal. The Latest File Versions Information Result Set is defined using T-SQL syntax, as follows:

```

Id                uniqueidentifier,
UIVersion          int,
TimeCreated        datetime,
TimeLastModified   datetime,
DocFlags           int,
MetaInfo           image,
CheckinComment     nvarchar(1023),
Level             tinyint,
SetupPath          nvarchar(255),
SetupPathUser      nvarchar(255),
SetupPathVersion   tinyint,
HasStream          int,
ListId            uniqueidentifier,
Size              int;

```

Id: The **identifier** of the document.

UIVersion: A user interface (UI) version number associated with the Document.

TimeCreated: A timestamp in UTC specifying when this document was first created.

TimeLastModified: A timestamp in UTC specifying when the selected version of the document was last modified.

DocFlags: A Doc Flags value specifying information about the Document. See [\[MS-WSSFO2\]](#) section 2.2.3.3 for details.

MetaInfo: A Metadict for the document. The Metadict format is specified in [\[MS-FPSE\]](#) section 2.2.2.5.3.

CheckinComment: Comment associated with the document when this version of the document was last checked in.

Level: The Publishing Level of this version of the Document.

SetupPath: For a Document that is now or once was Ghosted, this contains the setup path fragment relative to the base setup path specified by the SetupPathVersion value, where the document stream of this Document can be found. This value **MUST** be NULL if the Document was never Ghosted.

SetupPathUser: If this Document is now or once was Ghosted, this contains the login name of the user that created the Ghosted Document. This value is undefined for Documents that were never Ghosted.

SetupPathVersion: For a Ghosted Document, this governs the SetupPath fragment starting from the template path location. The following are valid values:

Value	Description
2	The SetupPath is relative to the template location of WSSv2 on the front-end Web server.
3	The SetupPath is relative to the template location of WSSv3 on the front-end Web server.
4	The SetupPath is relative to the template location of WSSv4 on the front-end Web server.

HasStream: Identifies whether the Document contents are stored in the database or on the file system. A value of 0 indicates that the Document is Ghosted and stored outside of the Content Database; otherwise, this value MUST be 1.

ListId: The list identifier of the list containing the Document. If the Document is not contained in a list, this value MUST be NULL.

Size: The size of the **Document Stream** in bytes. This value MUST not be NULL.

3.1.4.22.3 Previous File Versions Result Set

The Previous File Version Result Set MUST contain 0 or more rows, for each file that remains to be exported. If @VersionSetting is not 4, then 0 rows MUST be returned. The Previous File Versions Result Set will return information for the first 200 files with ordinals greater than @LastOrdinal. The Previous File Versions Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
Version	int,
TimeCreated	datetime,
DocFlags	int,
MetaInfo	image,
CheckinComment	nvarchar(1023)
HasStream	bit,
Size	int;

Id: The identifier of the file.

Version: A user interface (UI) version number associated with the Document.

TimeCreated: A timestamp in UTC specifying when the selected version of the file was created.

DocFlags: A Doc Flags value specifying information about the file. See [\[MS-WSSF02\]](#) section 2.2.3.3 for details.

MetaInfo: A Metadict for the file. The Metadict format is specified in [\[MS-FPSE\]](#) section 2.2.2.5.3.

CheckinComment: Comment associated with the file when this version of the file was last checked in.

HasStream: Identifies whether the file contents are stored in the database or on the file system. A value of 0 indicates that the file is Ghosted and stored outside of the Content Database; otherwise, this value MUST be 1.

Size: The size of the **Document Stream** in bytes. This value MUST not be NULL.

3.1.4.22.4 File Web Part Result Set

The File Web Part Result Set returns all the Web Part references in the files to be exported. The File Web Part Result Set will return information for the first 200 files with ordinals greater than @LastOrdinal. The File Web Part Result Set is defined using T-SQL syntax, as follows:

tp_ID	uniqueidentifier,
tp_ListID	uniqueidentifier,
tp_Type	tinyint,
tp_Flags	int,
tp_Hidden	int,

tp_Threaded	int,
tp_FPModified	int,
tp_ReadOnly	int,
tp_Scope	nvarchar(16),
tp_ReurrenceRowset	int,
tp_ModerationType	nvarchar(16),
tp_Personal	int,
tp_Ordered	int,
tp_DisplayName	nvarchar(255),
tp_ContentTypeId	varbinary(512),
tp_PageUrl	nvarchar(1024),
tp_BaseViewId	tinyint,
tp_View	varbinary(max),
tp_Level	tinyint,
tp_IsDefault	bit,
tp_ZoneID	nvarchar(64),
tp_IsIncluded	bit,
tp_PartOrder	int,
tp_FrameState	tinyint,
tp_Version	int,
tp_WebPartTypeId	uniqueidentifier,
tp_Assembly	nvarchar(255),
tp_Class	nvarchar(255),
tp_SolutionId	uniqueidentifier,
tp_AllUsersProperties	varbinary(max),
tp_PerUserProperties	varbinary(max),
tp_WebPartIdProperty	nvarchar(255),
tp_UserID	int,
tp_Source	nvarchar(max),
tp_CreationTime	DateTime,
DocId	uniqueidentifier,
tp_ListRootFolderUrl	nvarchar(260);

tp_ID: The identifier of the Web Part.

tp_ListID: The list identifier of the list.

tp_Type: The **page type** of this Web Part.

tp_Flags: A [\[MS-WSSFO2\]](#) section 2.2.3.12 value specifying View related settings for this Web Part.

tp_Hidden: This is 1 if the view MUST NOT be displayed in enumerations of the Views of this list (for example, in a View selector user interface element). Otherwise, this is 0.

tp_Threaded: Threaded view for legacy discussion board lists (lists with a List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11, of 3). This is 1 if client implementations MUST display results in a threaded fashion, and paging of results MUST be done in terms of threads instead of by individual list items. Otherwise, this is 0.

tp_FPModified: This is 1 if the view has been modified by a client application such that it might not be compatible with the web interface for View modification. Otherwise, this is 0.

tp_ReadOnly: This is 1 if the view is read-only and implementations MUST NOT permit any modifications to its properties. Otherwise, this is 0.

tp_Scope: The [web part scope](#).

tp_RecurrenceRowset: This is 1 if it is required that the View's data be expanded based on a calendar recurrence. For example, having a view of list **item** data for the first Thursday of every month. Otherwise, this is 0.

tp_ModerationType: The [web part moderation type](#).

tp_Personal: This MUST be 0.

tp_Ordered: This MUST be 1 if the view displays list items based on the item order of the list (using the tp_ItemOrder column specified in section [3.1.4.30.1](#)). Otherwise, this MUST be 0.

tp_DisplayName: The Display Name of the web part.

tp_ContentTypeId: A Content Type identifier value describing the valid content types of folders that this Web Part can be used to view. If this Web Part is not restricted to a particular content type, this value MUST be 0.

tp_PageUrl: The **server-relative URL** to the Document that contains this Web Part. It MUST begin with a slash. It MUST NOT end with a slash.

tp_BaseViewId: Integer referring to the View specified in the list Template for this list that was used to create this View.

tp_View: An XML string that contains the meta data of the View, if this Web Part is a View. The schema of this XML string is defined as [\[MS-WSSCAML\]](#). If this Web Part is not a View, this MUST be NULL.

tp_Level: A publishing level value specifying the publishing status of the Web Part.

tp_IsDefault: This MUST be either 0 or 1. When set to 1, the current web part is a **default form** of the list. Otherwise, the web part is not a default form.

tp_ZoneId: The name of a Web Part Zone that the Web Part is in. This value MUST be NULL if the Web Part is not in any **Web Part zone**.

tp_IsIncluded: If 1, this indicates the Web Part is visible. This value MUST NOT be NULL.

tp_PartOrder: Ordinal number indicating the location of the Web Part in relation to other Web Parts in the same Web Part Zone.

tp_FrameState: The Web part chrome state of the Web Part. This value MUST NOT be NULL and MUST be one of the following:

Value	Description
0	Normal. The Web Part is displayed in its normal state, with title, content, and placement within the page.
1	Minimized. The Web Part is collapsed so that only the title portion of the frame appears.

tp_Version: The version of the Web Part.

tp_WebPartTypeId: A value computed from the hash of the Web Part's fully qualified **assembly name**.

tp_Assembly: The Web part's fully qualified assembly name.

tp_Class: The name of the .NET assembly the contains the definition of the Web Part.

tp_SolutionId: The identifier of the solution that installed the Web Part.

tp_AllUsersProperties: A serialized representation of 0 or more **customizable** properties on the Web Part. If this value is NULL, then default values will be used for all of the customizable properties on the Web Part.

tp_PerUserProperties: A serialized representation of zero or more properties that can be personalized on the Web Part for each user. If this value is NULL, then default values will be used for all of the properties that can be personalized on the Web Part. The ability to personalize indicates a designation for a Web Part property that can be modified for all users and for individual Users. Multiple values are maintained in the back-end database servers for this type of property: One value that is used for all users that have not yet modified the property for themselves, and one value for each user that has modified the property for themselves.

tp_WebPartIdProperty: The optional identifier of the Web Part. If not NULL, it MUST be unique per document, MUST not begin with a number, and contain only a combination of alphanumeric characters and underscores.

tp_UserID: The Security principal identifier of the user who created the Web Part. This value MUST be NULL if the web part was added through a shared view.

tp_Source: The Web part properties of the Web Part in either the format specified in [\[MS-WPPS\]](#) section 2.2.4.5 or HTML format.

tp_CreationTime: A timestamp in UTC specifying when this Web Part was created.

DocId: The file that contains this Web Part.

tp_ListRootFolderUrl: This value MUST be NULL.

3.1.4.22.5 Web Part Personalization Result Set

The Web Part Personalization Result Set returns the Web Part personalizations in the files to be exported. The Web Part Personalization Result Set will return information for the first 200 files with ordinals greater than @LastOrdinal. The Web Part Personalization Result Set is defined using T-SQL syntax, as follows:

```
tp_Id                uniqueidentifier,  
tp_DocId             uniqueidentifier,  
tp_UserID            int,  
tp_PartOrder         int,  
tp_ZoneID            nvarchar(64),  
tp_IsIncluded        bit,  
tp_FrameState        tinyint,  
tp_PerUserProperties image;
```

tp_Id: The **web part identifier** of the personalized **Web Part**.

tp_DocId: The identifier of the file which contains the personalized Web Part. This MUST NOT be NULL.

tp_UserID: The identification number of the user who personalized the Web Part.

tp_PartOrder: Ordinal number indicating the location of the Web Part in relation to other Web Parts in the same Web Part Zone.

tp_ZoneID: The name of a Web Part Zone that the Web Part is in. This value MUST be NULL if the Web Part is not in any Web Part Zone.

tp_IsIncluded: If 1, this indicates the Web Part is visible. This value MUST NOT be NULL.

tp_FrameState: The Web part chrome state of the Web Part. This value MUST NOT be NULL.

tp_PerUserProperties: The properties to assign to this Web Part for this user.

3.1.4.22.6 File Links Result Set

The File Links Result Set returns information about the Server-Relative URLs in the files to be exported. The File Links Result Set will return information for the first 200 list items with ordinals greater than @LastOrdinal. The File Links Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
{TargetId}	uniqueidentifier,
TargetUrl	nvarchar(261),
WebPartId	uniqueidentifier,
LinkNumber	int,
Type	tinyint,
Security	tinyint,
Dynamic	tinyint,
ServerRel	bit,
Level	tinyint,
Search	ntext;

Id: The document identifier of the document.

{TargetId}: The document identifier of the item the links point to. The value MUST not be NULL.

TargetUrl: The server-relative URL of the target document.

WebPartId: The identifier of the Web Part containing the link.

LinkNumber: An ordinal value denoting the relative order of this **hyperlink** within the source of the Document, Web Part, or Field being processed.

Type: Type of the link. Values specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.8.

Security: A one byte (tinyint) value represented as a single upper case ASCII character specifying the Link's type of URL. Values specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.8.

Dynamic: A one byte (tinyint) value represented as a single upper case ASCII character which tracks various special Link Types. Values specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.8.

ServerRel: This value MUST be 1.

Level: The Publishing Level of this version of the Document.

Search: Search parameters for **forward links**. The link source starting at either the query string signifier '?' or the bookmark signifier '#'.

3.1.4.22.7 File Web Part Versions Result Set

The File Web Part Versions Result Set MUST contain 0 or more rows, for each file that remains to be exported. If @VersionSetting is not 4, then 0 rows MUST be returned. The File Web Part Versions

Result set will return information for the first 200 files with ordinal greater than @LastOrdinal. The File Web Part Versions Result Set is defined using T-SQL syntax, as follows:

```

tp_ID                uniqueidentifier,
tp_ListID            uniqueidentifier,
tp_Type              tinyint,
tp_Flags             int,
tp_Hidden            int,
tp_Threaded          int,
tp_FPMModified       int,
tp_ReadOnly          int,
tp_Scope             nvarchar(16),
tp_RecurrenceRowset  int,
tp_ModerationType    nvarchar(16),
tp_Personal          int,
tp_Ordered           int,
tp_DisplayName       nvarchar(255),
tp_ContentTypeId     varbinary(512),
tp_PageUrl           nvarchar(1024),
tp_BaseViewId        tinyint,
tp_View              varbinary(max),
tp_Level             tinyint,
tp_IsDefault         bit,
tp_ZoneID            nvarchar(64),
tp_IsIncluded        bit,
tp_PartOrder         int,
tp_FrameState        tinyint,
tp_Version           int,
tp_WebPartTypeId     uniqueidentifier, ,
tp_Assembly          nvarchar(255),
tp_Class             nvarchar(255),
tp_SolutionId        uniqueidentifier,
tp_AllUsersProperties varbinary(max),
tp_PerUserProperties varbinary(max),
tp_WebPartIdProperty nvarchar(255),
tp_UserID            int,
tp_Source            nvarchar(max),
tp_CreationTime       DateTime,
DocId               uniqueidentifier,
tp_ListRootFolderUrl nvarchar(260),
tp_PageVersion       int;

```

tp_ID: The identifier of the Web Part.

tp_ListID: The list identifier of the list.

tp_Type: The page type of this Web Part.

tp_Flags: A [\[MS-WSSFO2\]](#) section 2.2.3.12 value specifying View related settings for this Web Part.

tp_Hidden: This is 1 if the view MUST NOT be displayed in enumerations of the Views of this list (for example, in a View selector user interface element). Otherwise, this is 0.

tp_Threaded: Threaded view for legacy discussion board lists (lists with a List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11, of 3). This is 1 if client implementations MUST display results in a threaded fashion, and paging of results MUST be done in terms of threads instead of by individual list items. Otherwise, this is 0.

tp_FPModified: This is 1 if the view has been modified by a client application such that it might not be compatible with the web interface for View modification. Otherwise, this is 0. Implementations MUST restrict modifying any properties they do not understand.

tp_ReadOnly: This is 1 if the view is read-only and implementations MUST NOT permit any modifications to its properties. Otherwise, this is 0.

tp_Scope: The [web part scope](#).

tp_RecurrenceRowset: This is 1 if it is required that the View's data be expanded based on a calendar recurrence. For example, having a view of list **item** data for the first Thursday of every month. Otherwise, this is 0.

tp_ModerationType: The [web part moderation type](#).

tp_Personal: This MUST be 0.

tp_Ordered: This MUST be 1 if the view displays list items based on the item order of the list (using the tp_ItemOrder column specified in section [3.1.4.30.4](#)). Otherwise, this MUST be 0.

tp_DisplayName: The Display Name of the web part.

tp_ContentTypeId: A Content Type identifier value describing the valid content types of folders that this Web Part can be used to view. If this Web Part is not restricted to a particular content type, this value MUST be 0.

tp_PageUrl: The server-relative URL to the Document that contains this Web Part. It MUST begin with a slash. It MUST NOT end with a slash.

tp_BaseViewId: Integer referring to the View specified in the list Template for this list that was used to create this View.

tp_View: An XML string that contains the meta data of the View, if this Web Part is a View. The schema of this XML string is defined as [\[MS-WSSCAML\]](#). If this Web Part is not a View, this MUST be NULL.

tp_Level: A publishing level value specifying the publishing status of the Web Part.

tp_IsDefault: This MUST be either 0 or 1. When set to 1, the current web part is a default form of the list. Otherwise, the web part is not a default form.

tp_ZoneId: The name of a Web Part Zone that the Web Part is in. This value MUST be NULL if the Web Part is not in any Web Part zone.

tp_IsIncluded: If 1, this indicates the Web Part is visible. This value MUST NOT be NULL.

tp_PartOrder: Ordinal number indicating the location of the Web Part in relation to other Web Parts in the same Web Part Zone.

tp_FrameState: The Web part chrome state of the Web Part. This value MUST NOT be NULL and MUST be one of the following:

Value	Description
0	Normal. The Web Part is displayed in its normal state, with title, content, and placement within the page.
1	Minimized. The Web Part is collapsed so that only the title portion of the frame appears.

tp_Version: The version of the Web Part.

tp_WebPartTypeId: A value computed from the hash of the Web Part's fully qualified assembly name.

tp_Assembly: The Web part's fully qualified assembly name.

tp_Class: The name of the .NET assembly the contains the definition of the Web Part.

tp_SolutionId: The identifier of the solution that installed the Web Part.

tp_AllUsersProperties: A serialized representation of 0 or more customizable properties on the Web Part. If this value is NULL, then default values will be used for all of the customizable properties on the Web Part.

tp_PerUserProperties: A serialized representation of zero or more personalizable properties on the Web Part for each user. If this value is NULL, then default values will be used for all of the personalizable properties on the Web Part. Personalizable indicates a designation for a Web Part property that can be modified for all users and for individual Users. Multiple values are maintained in the back-end database servers for this type of property: One value that is used for all users that have not yet modified the property for themselves, and one value for each user that has modified the property for themselves.

tp_WebPartIdProperty: The optional identifier of the Web Part. If not NULL, it MUST be unique per document, MUST not begin with a number, and contain only a combination of alphanumeric characters and underscores.

tp_UserID: The Security principal identifier of the user who created the Web Part. This value MUST be NULL if the web part was added through a shared view.

tp_Source: The Web part properties of the Web Part in either the format specified in [\[MS-WPPS\]](#) section 2.2.4.5 or HTML format.

tp_CreationTime: A timestamp in UTC specifying when this Web Part was created.

DocId: The file that contains this Web Part.

tp_ListRootFolderUrl: This value MUST be NULL.

tp_PageVersion: A user interface (UI) version number associated with the Document.

3.1.4.23 proc_DeplGetFolderById

The proc_DeplGetFolderById stored procedure returns the site identifier and server-relative URL for a Folder specified by the **folder identifier**. proc_DeplGetFolderById is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetFolderById(
    @SiteId                uniqueidentifier,
    @FolderId              uniqueidentifier,
    @RestoreRecycleBinItems bit = 0,
    @RequestGuid           uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** that contains the Folder specified by @FolderId.

@FolderId: The folder identifier for the Folder in the Site Collection specified by @SiteId.

@RestoreRecycleBinItems: If this is 1 and the Folder specified by @FolderId is in the **Recycle Bin**, then the Folder and all items deleted in the same transaction **MUST** be restored from the Recycle Bin. If this is not 1 and the Folder is in the Recycle Bin, then the return code value **MUST** be 30001.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which **MUST** be listed in the following table:

Value	Description
0	Execution finished. A Result Set MUST be returned. This MUST also be the value returned if the @SiteId or @FolderId do not match an existing item.
80	The specified Folder exists, but belongs to a different Site Collection.
87	@SiteId or @FolderId is NULL.
30001	The specified Folder is in the Recycle Bin and @RestoreRecycleBinItems is not 1. The specified Folder is in the Recycle Bin and @RestoreRecycleBinItems is 1, but the attempt to restore from the Recycle Bin failed.

Result Sets: **MUST** return the following Result Set:

3.1.4.23.1 Folder Location Result Set

The Folder Location Result Set returns information about the specified Folder. On successful execution, the Folder Location Result Set **MUST** be returned and **MUST** contain 0 or one rows. One row **MUST** be returned if @SiteId and @FolderId correspond to an existing item. 0 rows **MUST** be returned in all other cases.

The Folder Location Result Set is defined using T-SQL syntax, as follows:

```
WebId      uniqueidentifier,  
Url        nvarchar(261);
```

WebId: The site identifier for the Site containing the specified Folder.

Url: The server-relative URL of the Folder. It **MUST** begin with a slash.

3.1.4.24 proc_DeplGetFolderData

The proc_DeplGetFolderData stored procedure returns information about the Folders to be processed during an Export Operation. proc_DeplGetFolderData is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetFolderData(  
    @SiteId          uniqueidentifier,  
    @LastOrdinal     int,  
    @VersionSetting  int,  
    @RequestGuid     uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** to operate on.

@LastOrdinal: All Folders returned by `proc_DeplGetFolderData` MUST have values in the Ordinal column of the [Folder Information result set](#), specified in section 3.1.4.24.1, greater than @LastOrdinal. When calling `proc_DeplGetFolderData` the first time, set @LastOrdinal to 0. When calling `proc_DeplGetFolderData` to retrieve more Folders, set @LastOrdinal to the largest Ordinal value returned in the previous call to `proc_DeplGetFolderData`.

@VersionSetting: If this is 1, `proc_DeplGetFolderData` MUST only return information about Folders with a Publishing Level of published. If this is not 1, `proc_DeplGetFolderData` MUST return exactly one row for each unique Folder. If a version of a folder has a Publishing Level of Checked Out, information about a different version MUST be returned. If the folder only has information with a publishing level of checked out, `proc_DeplGetFolderData` MUST NOT return any information about that folder.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.24.1 Folder Information Result Set

The Folder Information Result Set returns one row for each Folder that needs to be exported. If a Folder only has a version with a Publishing Level of Checked Out, it will not be returned. If @SiteId is not found or there are no Folders that need to be exported, the Result Set MUST be empty.

The Folder Information Result Set MUST contain 200 rows, or one row for each folder that remains to be exported, whichever is smaller. The Folder Information Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
ExportObjectUrl	nvarchar(260),
Ordinal	int,
ParentWebId	uniqueidentifier,
LeafName	nvarchar(128),
ListId	uniqueidentifier,
DocLibRowId	int,
WelcomePageUrl	nvarchar(260),
WelcomePageParameters	ntext,
IsWebRootFolder	bit,
Acl	image,
MetaInfo	image,
TimeCreated	datetime,
TimeLastModified	datetime,
ProgId	nvarchar(255)
SortBehavior	tinyint;

Id: The identifier of the Folder.

ExportObjectUrl: The full Store-Relative Form URL for the Folder.

Ordinal: An identifier of the Folder that is a number used with the @LastOrdinal parameter. All rows returned MUST have an ordinal value greater than @LastOrdinal. The ordinals of all rows returned MUST be in increasing order.

ParentWebId: The site identifier for the Site containing the Folder.

LeafName: The Leaf Name of the Folder.

ListId: The list identifier of the list containing the Folder. If the Folder is not contained in a list, this value MUST be NULL.

DocLibRowId: The identifier in the document library for this item. If the Folder is not contained in a list, this value MUST be NULL.

WelcomePageUrl: An optional URL to redirect to when the Folder is requested with an HTTP GET operation. The URL is relative to the URL of the Folder itself, and must be subsumed by the Folder. If a welcome Page is not specified, this value MUST be NULL.

WelcomePageParameters: Optional URL parameters to use with the WelcomePageUrl value. If this value is not NULL, it MUST contain a query string starting with "?", a fragment parameter starting with "#", or both a query string and a fragment parameter, starting with "?" and containing "#". If the parameters are not specified, this value MUST be NULL.

IsWebRootFolder: If the Folder is the root of a Site, this MUST be 1. Otherwise, this MUST be 0.

Acl: The binary serialization of the WSS ACL Format access control list, specified in [\[MS-WSSFO2\]](#) section 2.2.5.6, for this Folder. This is either explicitly defined or inherited from the Folder's parent object.

MetaInfo: A **Metadict** for the Folder. The Metadict format is specified in [\[MS-FPSE\]](#) section 2.2.2.5.3.

TimeCreated: Date/time value in UTC specifying when this Folder was created.

TimeLastModified: Date/time value in UTC specifying when the Folder was last saved. This value does not necessarily correspond to the actual time when the Folder was last modified.

ProgId: This value MUST be ignored.

SortBehavior: An integer value specifying how the folder should be sorted within a view. If this parameter is set to 1, then the item MUST be sorted as a folder. If this parameter is set to 0, it MUST be sorted as a file. If the folder is for a site, the value MUST be 2.

3.1.4.25 **proc_DeplGetIncrementalChanges**

The `proc_DeplGetIncrementalChanges` stored procedure is called to populate the temporary table of export objects based on incremental changes in the Change Log. `proc_DeplGetIncrementalChanges` is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetIncrementalChanges(  
    @SiteId                uniqueidentifier,  
    @SearchEntireSite       tinyint,  
    @ChangeTimeStart        datetime,  
    @ChangeNumberStart      int,  
    @ChangeTimeEnd          datetime,  
    @ChangeNumberEnd        int,  
    @IncludeUsers           tinyint,  
    @IncludeGroups          tinyint,  
    @IsMajorFileOnly        tinyint,  
    @MinChangeTime          datetime OUTPUT,  
    @MinChangeNumber        int OUTPUT,  
    @RequestGuid            uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** to operate on.

@SearchEntireSite: If @SearchEntireSite is 1, proc_DeplGetIncrementalChanges MUST search the entire site collection for incremental changes. If this is not 1, proc_DeplGetIncrementalChanges MUST be limited to the Sites that are included in the Incremental Search Scope Table.

@ChangeTimeStart: All changes added to the table of export objects MUST have occurred at or after @ChangeTimeStart. @ChangeTimeStart MUST be ignored if @SearchEntireSite is not 1.

@ChangeNumberStart: All changes added to the table of export objects MUST have an identifier greater than @ChangeNumberStart. @ChangeNumberStart MUST be ignored if @SearchEntireSite is not 1.

@ChangeTimeEnd: All changes added to the table of export objects MUST have occurred at or before @ChangeTimeEnd.

@ChangeNumberEnd: All changes added to the table of export objects MUST have an identifier less than or equal to @ChangeNumberEnd.

@IncludeUsers: This value is not used and MUST be ignored.

@IncludeGroups: This value is not used and MUST be ignored.

@IsMajorFileOnly: If this is 1, only objects with a Publishing Level of published will be added. If this is 0, exactly one row for each unique object will be added, except information about versions with a Publishing Level of Checked Out MUST NOT be returned.

@MinChangeTime: When proc_DeplGetIncrementalChanges returns, this MUST be set to the time of the earliest change in the Change Log.

@MinChangeNumber: When proc_DeplGetIncrementalChanges returns, this MUST be set to the Change log identifier with the lowest value in the Change Log.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	Execution finished.
30000	This MUST be returned if there are no changes in the Change Log. This MUST be returned if the stored procedure did not find a valid entry in the change log that matches either @ChangeTimeStart or @ChangeNumberStart. If @SearchEntireSite is 1, this value MUST be returned if @ChangeTimeStart or @ChangeNumberStart is NULL.

Result Sets: MUST NOT return any result sets.

3.1.4.26 proc_DeplGetListData

The proc_DeplGetListData stored procedure is called to return information about the lists to be processed during an export operation. proc_DeplGetListData is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetListData(
```

```

        @LastOrdinal          int,
        @SiteId               uniqueidentifier,
        @IsIncremental        bit,
        @ChangeTimeStart      datetime = NULL,
        @ChangeNumberStart    int = NULL,
        @ChangeTimeEnd        datetime = NULL,
        @ChangeNumberEnd      int = NULL,
        @RequestGuid          uniqueidentifier = NULL OUTPUT
    );

```

@LastOrdinal: The information for all lists returned by proc_DeplGetListData MUST have values in the Ordinal column greater than @LastOrdinal. When calling proc_DeplGetListData the first time, set @LastOrdinal to 0. When calling proc_DeplGetListData to retrieve more lists, set @LastOrdinal to the largest Ordinal value returned in the previous call to proc_DeplGetListData.

@SiteId: The site collection identifier for the **Site Collection** to operate on.

@IsIncremental: If this is 1, the [Deleted Fields result set](#), specified in section 3.1.4.26.4, [Deleted Views result set](#), specified in section 3.1.4.26.5, and [Deleted Content Types result set](#), specified in section 3.1.4.26.6 will be returned. Otherwise, the [Null List result set](#), specified in section 3.1.4.26.7, the [Null List result set two](#), specified in section 3.1.4.26.8 and the [Null List result set three](#), specified in section 3.1.4.26.9 will be returned.

@ChangeTimeStart: @ChangeTimeStart is only used if @IsIncremental is 1. If this is not NULL, the entire Site Collection will be searched for incremental changes that result in deleted Fields. All changes returned MUST have occurred at or after @ChangeTimeStart. If this is NULL, fields returned will be limited to the Sites that are included in the Incremental Search Scope Table.

@ChangeNumberStart: @ChangeNumberStart is only used if @IsIncremental is 1 and @ChangeNumberStart is not NULL. All Field deletion changes returned MUST have a Change log identifier greater than @ChangeNumberStart.

@ChangeTimeEnd: @ChangeTimeEnd is only used if @IsIncremental is 1. All Field deletion changes returned MUST have occurred at or before @ChangeTimeEnd.

@ChangeNumberEnd: @ChangeNumberEnd is only used if @IsIncremental is 1. All Field deletion changes returned MUST have a Change log identifier less than or equal to @ChangeNumberEnd.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return eight result sets in the following order:

3.1.4.26.1 List Information Result Set

This Result Set MUST be returned.

The List Information Result Set MUST contain 50 rows, or one row for each list that remains to be exported, whichever is smaller. The List Information Result Set is defined using T-SQL syntax, as follows:

```

    Id                uniqueidentifier,
    ExportObjectUrl    nvarchar(260),
    Ordinal           int,
    tp_Title           nvarchar(255),

```


tp_Description	ntext,
tp_Modified	datetime,
tp_Created	datetime,
tp_Version	int,
tp_BaseType	int,
tp_FeatureId	uniqueidentifier,
tp_ServerTemplate	int,
tp_RootFolder	uniqueidentifier,
tp_Template	uniqueidentifier,
tp_ReadSecurity	int,
tp_WriteSecurity	int,
tp_Fields	ntext,
tp_Direction	int,
tp_Flags	bigint,
tp_ThumbnailSize	int,
tp_WebImageWidth	int,
tp_WebImageHeight	int,
tp_ImageUrl	nvarchar(255),
tp_Author	int,
tp_EventSinkAssembly	nvarchar(255),
tp_EventSinkClass	nvarchar(255),
tp_EventSinkData	nvarchar(255),
tp_EmailAlias	nvarchar(128),
tp_DocTemplateUrl	nvarchar(261),
tp_ContentTypes	ntext,
Acl	image,
tp_MaxMajorVersionCount	int,
tp_MaxMajorwithMinorVersionCount	int,
tp_SendToLocation	nvarchar(512),
tp_NoThrottleListOperations	bit,
TitleResource	nvarchar(256),
DescriptionResource	nvarchar(256),
DataSource	nvarchar(max),
ValidationFormula	nvarchar(1024),
ValidationMessage	nvarchar(1024),
tp_ScopeId	uniqueidentifier;

Id: The identifier of the list.

ExportObjectUrl: The full Store-Relative Form URL for the list.

Ordinal: An identifier of the list that is a number used with the @LastOrdinal parameter. All rows returned MUST have an ordinal value greater than @LastOrdinal. The ordinals of all rows returned MUST be in increasing order.

tp_Title: The title of this list for display in the user interface.

tp_Description: The description of this list for display in the user interface.

tp_Modified: A timestamp in UTC specifying when this list was last modified.

tp_Created: A timestamp in UTC specifying when this list was created.

tp_Version: A counter incremented any time a change is made to the schema or other properties of this list, and is used for internal conflict detection.

tp_BaseType: This specifies the List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11 of this list.

tp_FeatureId: The identifier for the feature that defines the base schema of this list.

tp_ServerTemplate: The identifier for the template included in the feature definition or site definition that defines the base structure of this list.

tp_RootFolder: The identifier of the root Folder of this list.

tp_Template: The identifier of the default template to use when a Document is created in this document library. tp_Template MUST be NULL if this list is not a document library.

tp_ReadSecurity: This signifies special restrictions that MUST be placed on list item access. It MUST be one of the following values:

Value	Description
1	No special restrictions.
2	Users MUST see only their own list items. The front-end Web server MUST NOT display list items to users without the ManageLists right unless the list item was created by that user. The ManageLists right is specified in [MS-WSSF02] section 2.2.3.14.

tp_WriteSecurity: This signifies special restrictions that can be placed on list item update. It MUST be one of the following values:

Value	Description
1	No special restrictions.
2	Users can change only their own list items. The front-end Web server MUST NOT allow users without the ManageLists right to update a list item unless the list item was created by that user.
4	Users will not update any list items in this list. The front-end Web server MUST NOT allow users without the ManageLists right to add or update list items in this list.

tp_Fields: This field MUST be NULL if the site or list has been flagged to cache all schema data; otherwise, it contains a compressed structure. Uncompressed it contains an implementation-specific version string followed by an XML representation of the **field definitions**. The field definitions include display and interaction options. The XML MUST conform to the FieldDefinitionDatabaseWithVersion complex type, as defined by [\[MS-WSSF02\]](#) section 2.2.9.3.5.

tp_Direction: An enumerated value specifying the direction of text flow for user interface elements presented by this list. It MUST be one of the following values:

Value	Description
0	No explicit direction is specified.
1	Text flow MUST be left to right.
2	Text flow MUST be right to left.

tp_Flags: A list flags value describing this list.

tp_ThumbnailSize: The width, in pixels, that MUST be used when creating thumbnail images of list items within this list. If the list is not a **picture library**, this MUST be NULL.

tp_WebImageWidth: The width, in pixels, that MUST be used when displaying images of list items within this list. If the list is not a picture library, this MUST be NULL.

tp_WebImageHeight: The height, in pixels, that MUST be used when displaying images of list items within this list. If the list is not a picture library, this MUST be NULL.

tp_ImageUrl: The server-relative URL of the image used to represent this list.

tp_Author: The identifier in the UserInfo Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.10, of the user who is listed as creating this list.

tp_EventSinkAssembly: The assembly name of the implementation of the backwards compatible event receiver associated with this list.

tp_EventSinkClass: The **fully qualified class name** of the implementation of the backwards compatible event receiver associated with this list.

tp_EventSinkData: Additional data persisted on behalf of the backwards compatible event receiver implementation to be passed to the backwards compatible event receiver associated with this list.

tp_EmailAlias: The e-mail alias of the list. This alias is used to allow files to be sent directly to this list through an implementation-specific e-mail handling feature.

tp_DocTemplateUrl: The Server-relative URL of the tp_Template Document. It MUST begin with a slash.

tp_ContentTypes: **XML** data specifying the Content Types registered for this list. The XML Schemas for a Content Type are defined in [\[MS-WSSCAML\]](#) section as ContentTypeDefinition.

Acl: The binary serialization of the WSS ACL Format access control list, specified in [\[MS-WSSFO2\]](#) section 2.2.5.6, for this list. This is either explicitly defined or inherited from the parent object of the list.

tp_MaxMajorVersionCount: If the list has versioning enabled, this field contains the number of major versions that will be retained for this document. All versions more than tp_MaxMajorVersionCount removed from the current version of the document are automatically removed at version creation time. A value of NULL specifies that versions MUST not automatically be removed for this list.

tp_MaxMajorwithMinorVersionCount: If the list has versioning enabled, this field contains the number of major versions that will have their associated minor versions retained for this document. All minor versions associated with a major version that is more than tp_MaxMajorwithMinorVersionCount removed from the current major version of the document are automatically removed at version creation time. A value of NULL specifies that versions MUST not automatically be removed for this list.

tp_SendToLocation: The title and URL for the "Send To Location" configured on this list. The **SendToLocation** is an implementation specific feature that allows users to manually save copies of list items and Documents to the remote location.

tp_NoThrottleListOperations: If the resource usage for list operations is to be limited, then this MUST be 1. Otherwise this MUST be 0.

TitleResource: The **resource token** or **resource identifier** of the title for the list.

DescriptionResource: The resource token or resource identifier of the description for the list.

DataSource: A string that MUST contain the XML fragment for the list **data source**. The schema of this fragment is specified in [\[MS-WSSDLIM2\]](#) section 2.2.8.3.1.

ValidationFormula: A string that is used to perform custom validation rules prior to the list being updated. If specified this MUST be an expression as specified by [\[MS-WSSTS\]](#) section 2.9 and MUST NOT be longer than 1024 characters.

ValidationMessage: A string that is suitable to display in a user interface when the list fails validation based on **ValidationFormula**.

tp_ScopeId: The identifier of the scope which contains the List.

3.1.4.26.2 List Web Parts Result Set

This Result Set MUST be returned.

The List Web Parts Result Set contains information about the Web Parts defined for the Lists to be exported. The List Web Parts Result Set MUST contain one row for each Web Part associated with the first 50 lists to be exported with export ordinals greater than @**LastOrdinal**, or if there are less than 50 lists with export ordinals greater than @**LastOrdinal**, all of them MUST be returned. This Result Set is ordered by the Web Part creation time in ascending order.

The List Web Parts Result Set is defined using T-SQL syntax, as follows:

tp_ID	uniqueidentifier,
tp_ListID	uniqueidentifier,
tp_Type	tinyint,
tp_Flags	int,
tp_Hidden	bit,
tp_Threaded	bit,
tp_FPModified	bit,
tp_ReadOnly	bit,
tp_Scope	nvarchar(256),
tp_RecurrenceRowset	bit,
tp_ModerationType	nvarchar(256),
tp_Personal	bit,
tp_Ordered	bit,
tp_DisplayName	nvarchar(255),
tp_ContentTypeId	varbinary(512),
tp_PageUrl	nvarchar(261),
tp_BaseViewId	tinyint,
tp_View	ntext,
tp_Level	tinyint,
tp_IsDefault	bit,
tp_WebPartIdProperty	nvarchar(255),
tp_ZoneID	nvarchar(64),
tp_IsIncluded	bit,
tp_PartOrder	int,
tp_FrameState	tinyint,
tp_WebPartTypeId	uniqueidentifier,
Id	uniqueidentifier,
OnQuickLaunch	bit,
tp_MobileView	bit,
tp_MobileDefaultView	bit,
tp_ContentTypeDefault	bit,
tp_LockWeb	bit,
tp_FailIfEmpty	bit,
tp_FreeForm	bit,

tp_FileDialog	bit,
tp_AggregationView	bit,
tp_IncludeRootFolder	bit,
tp_IncludeVersions	bit,
tp_AllUsersProperties	varbinary(max),
tp_PerUserProperties	varbinary(max);

tp_ID: The identifier of the Web Part.

tp_ListID: The list identifier of the list.

tp_Type: The page type of this Web Part.

tp_Flags: A [\[MS-WSSFO2\]](#) section 2.2.3.12 value specifying View related settings for this Web Part.

tp_Hidden: This is 1 if the view MUST NOT be displayed in enumerations of the Views of this list (for example, in a View selector user interface element). Otherwise, this is 0.

tp_Threaded: Threaded view for legacy discussion board lists(lists with a List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11, of 3). This is 1 if client implementations SHOULD display results in a threaded fashion, and paging of results SHOULD be done in terms of threads instead of by individual list items. Otherwise, this is 0.

tp_FPModified: This is 1 if the View has been modified by a client application such that it might not be compatible with the browser-based interface for View modification. Otherwise, this is 0.

tp_ReadOnly: This is 1 if the view is read-only and implementations MUST not allow any modifications to its properties. Otherwise, this is 0.

tp_Scope: The [web part scope](#), specified in section 2.2.1.2.

tp_RecurrenceRowset: This MUST be 1 if it is required that the View's data be expanded based on a recurring calendar event. For example, having a View of list **item** data for the first Thursday of every month. Otherwise, this MUST be 0.

tp_ModerationType: The [web part moderation type](#), specified in section 2.2.1.1.

tp_Personal: This MUST be 0.

tp_Ordered: This MUST be 1 if the view displays list items based on the item order of the list (using the tp_ItemOrder column specified in section [3.1.4.30.1](#)). Otherwise, this MUST be 0.

tp_DisplayName: The Display Name, for use in the user interface, defined for this list.

tp_ContentTypeId: A Content Type identifier value specifying the valid folder content type that this Web Part can be used to view. If this Web Part is not restricted to a particular content type, this value MUST be 0.

tp_PageUrl: The server-relative URL to the Document that contains this Web Part. It MUST begin with a slash. It MUST NOT end with a slash.

tp_BaseViewId: The **base view identifier** for the Web Part.

tp_View: A value containing implementation-specific XML used when processing this Web Part. If this Web Part is not a View, this MUST be NULL.

tp_Level: A Publishing Level value specifying the publishing status of the Web Part.

tp_IsDefault: This is 1 if the view is to be used as the default form for the corresponding list. Otherwise, this is 0.

tp_WebPartIdProperty: The optional identifier of the Web Part. If not NULL, it MUST be unique per document, MUST not begin with a number, and contain only a combination of alphanumeric characters and underscores.

tp_ZoneId: The name of a Web Part Zone.

tp_IsIncluded: The Web Part Is in the Closed state. This value MUST NOT be NULL.

tp_PartOrder: Ordinal number indicating the location of the Web Part in relation to other Web Parts in the same Web Part Zone.

tp_FrameState: The Web part chrome state of the Web Part. This value MUST NOT be NULL and MUST be one of the following:

Value	Description
0	Normal. The Web Part is displayed in its normal state, with title, content, and placement within the page.
1	Minimized. The Web Part is collapsed so that only the title portion of the frame appears.

tp_WebPartTypeId: The identifier of the type of the Web part. MUST NOT be NULL.

Id: The identifier of the Document that contains this Web Part.

OnQuickLaunch: This MUST be 1 if the document is in the Site's Navigation Structure. Otherwise, this MUST be 0.

tp_MobileView: This MUST be 1 if the view is intended for display on **mobile devices**. Otherwise, this MUST be 0.

tp_MobileDefaultView: This MUST be 1 if the view MUST be displayed as the default View of this list when a mobile View is requested. Otherwise, this MUST be 0.

tp_ContentTypeDefault: This MUST be 1 if the view MUST be the default view presented when a View is requested for a particular **Content Type**. Otherwise, this MUST be 0.

tp_LockWeb: Value is unused and MUST be ignored.

tp_FailIfEmpty: If the query for this view returns no rows, implementations of the front-end Web server MUST return an HTTP 410 error when displaying this view as part of an HTTP request, instead of displaying a normal empty view body. See [\[RFC2068\]](#) section 10.4.11 for the specification of HTTP 410. See also flag VIEWFLAG_FAILIFEMPTY (0x00000040) in "View Flags" in [\[MS-WSSFO2\]](#) section 2.2.3.12.

tp_FreeForm: This MUST be 1 if data is presented in a fashion that is not tabular. Implementations SHOULD format results in a manner compatible with free-form presentation. Otherwise, this MUST be 0.

tp_FileDialog: This MUST be 1 if the View is suitable for displaying in an HTML-based file navigation dialog to client applications. Otherwise, this MUST be 0.

tp_AggregationView: This MUST be 1 if the View has functionality for aggregating data across multiple **XML documents** within an XML form library. Otherwise, this MUST be 0.

tp_IncludeRootFolder: This MUST be 1 if the View of a Folder MUST fetch the list item for the Folder of the view, in addition to the standard behavior of fetching all list items contained within it. Otherwise, this MUST be 0.

tp_IncludeVersions: This MUST be 1 if the View displays historical versions of list items. Otherwise, this MUST be 0. .

tp_AllUsersProperties: A serialized representation of 0 or more customizable properties on the View. If this value is NULL, then default values will be used for all of the customizable properties on the View.

tp_PerUserProperties: A serialized representation of zero or more properties that can be personalized on the View for each user. If this value is NULL, then default values will be used for all of the properties that can be personalized on the View. The ability to personalize indicates a designation for a View property that can be modified for all users and for individual Users. Multiple values are maintained in the back-end database servers for this type of property: One value that is used for all users that have not yet modified the property for themselves, and one value for each user that has modified the property for themselves.

3.1.4.26.3 Event Receivers Result Set

This Result Set MUST be returned.

The Event Receivers Result Set contains information about the event receivers defined for the lists to be exported. The Event Receivers Result Set MUST contain one row for each event receiver. The event receivers in the Result Set MUST be registered with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, information about all of their event receivers MUST be returned. If @SiteId does not match an existing Site Collection, this Result Set MUST be empty.

The Event Receivers Result Set is defined using T-SQL syntax, as follows:

```
Id                uniqueidentifier,
HostId            uniqueidentifier,
WebId             uniqueidentifier,
Name              nvarchar(256),
HostType          int,
ItemId            int,
Synchronization   int,
Type              int,
SequenceNumber    int,
Assembly          nvarchar(256),
Class             nvarchar(256),
SolutionId        uniqueidentifier,
Data              nvarchar(256),
Filter            nvarchar(256),
Credential        int;
```

Id: The identifier of the event receiver.

HostId: The identifier for the list on which the event receiver is registered.

WebId: The site identifier for the Site that contains the event receiver.

Name: The display name of the event receiver.

HostType: The identifier of the event host type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.5, on which the event receiver is registered.

ItemId: This MUST be NULL.

Synchronization: An ordinal that determines whether the event receiver should be triggered synchronously or asynchronously.

Type: The identifier of the event receiver type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.6, of the event tracked by the event receiver.

SequenceNumber: An ordinal that determines the order in which the event receiver is triggered. SequenceNumber MUST be greater than OR equal to 0 AND less than OR equal to 65535.

Assembly: The name of the .NET assembly that contains the class definition of the event receiver.

Class: The fully qualified name of the .NET class definition for the event receiver.

SolutionId: The identifier of the solution that installed the event receiver.

Data: Additional Unicode data persisted on behalf of the event receiver implementation to be passed to the event receiver.

Filter: Reserved. A client MUST NOT use Filter.

Credential: Reserved. A client MUST NOT use Credential.

3.1.4.26.4 Deleted Fields Result Set

This Result Set MUST ONLY be returned if @IsIncremental is 1.

The Deleted Fields Result Set returns information about the Fields marked as deleted from the lists to be exported. The Deleted Fields Result Set will return the deleted Fields associated with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, all of them MUST be returned.

The Deleted Fields Result Set is defined using T-SQL syntax, as follows:

```
ListId      uniqueidentifier,  
FieldId     uniqueidentifier;
```

ListId: The list identifier of the list that contained the deleted Field.

FieldId: The Field identifier of the deleted Field.

3.1.4.26.5 Deleted Views Result Set

This Result Set MUST ONLY be returned if @IsIncremental is 1.

The Deleted Views Result Set returns information about the Views marked as deleted from the lists to be exported. The Deleted Views Result Set will return the deleted Views associated with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, all of them MUST be returned.

The Deleted Views Result Set is defined using T-SQL syntax, as follows:


```
ListId      uniqueidentifier,
ViewId      uniqueidentifier;
```

ListId: The list identifier of the list that contained the deleted View.

ViewId: The View identifier of the deleted View.

3.1.4.26.6 Deleted Content Types Result Set

This Result Set MUST ONLY be returned if @IsIncremental is 1.

The Deleted Content Types Result Set returns information about the Content Types marked as deleted from the lists to be exported. The Deleted Content Types Result Set will return the deleted Content Types associated with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, all of them MUST be returned.

The Deleted Content Types Result Set is defined using T-SQL syntax, as follows:

```
ListId      uniqueidentifier,
ContentTypeId varbinary(512);
```

ListId: The list identifier of the list that contained the deleted Content Type.

ContentTypeId: The content type identifier of this Content Type.

3.1.4.26.7 Null List Result Set

This Result Set MUST ONLY be returned if @IsIncremental is not 1.

The Null List Result Set is a placeholder that MUST have 0 rows. The Null List Result Set is defined using T-SQL syntax, as follows:

```
ListId      uniqueidentifier,
FieldId      uniqueidentifier;
```

ListId: The list identifier of the list.

FieldId: The Field identifier of the Field.

3.1.4.26.8 Null List Result Set Two

This Result Set MUST ONLY be returned if @IsIncremental is not 1.

The Null List Two Result Set is a placeholder that MUST have 0 rows. The Null List Two Result Set is defined using T-SQL syntax, as follows:

```
ListId      uniqueidentifier,
ViewId      uniqueidentifier;
```

ListId: The list identifier of the list.

ViewId: The View identifier of the view.

3.1.4.26.9 Null List Result Set Three

This Result Set MUST ONLY be returned if @IsIncremental is not 1.

The Null List Three Result Set is a placeholder that MUST have 0 rows. The Null List Three Result Set is defined using T-SQL syntax, as follows:

```
ListId                uniqueidentifier,  
{ContentTypeId}      varbinary(512);
```

ListId: The list identifier of the list.

{ContentTypeId}: The content type identifier of the Content Type.

3.1.4.26.10 List User Custom Actions Result Set

This Result Set MUST be returned if @IsIncremental is not 1.

The List Custom Action Result Set contains information about the custom actions defined for the lists to be exported. The List User Custom Actions Result Set MUST contain one row for each unique custom action. The user custom actions in the Result Set MUST be registered with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, information about all of their custom actions MUST be returned. If @SiteId does not match an existing Site Collection, this Result Set MUST be empty.

The List Custom Action Result Set is defined using T-SQL syntax, as follows:

```
Id                    uniqueidentifier,  
ScopeId              uniqueidentifier,  
Properties            nvarchar(max),  
Version              nvarchar(64);
```

Id: The identifier of the user custom action.

ScopeId: The identifier of the List.

Properties: The **custom action** data describing its functionality.

Version: The custom action version.

3.1.4.26.11 List Unique Resources Result Set

This Result Set MUST be returned.

The List Unique Resource Result Set contains information about the unique resources defined for the lists to be exported. The List Unique Resource Result Set MUST contain one row for each unique resource. The unique resources in the Result Set MUST be registered with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, information about all of their unique resources MUST be returned. If @SiteId does not match an existing Site Collection, this Result Set MUST be empty.

The List Unique Resources Result Set is defined using T-SQL syntax, as follows:

```
ListId                uniqueidentifier,  
ResourceName          nvarchar(256),
```

```
BitType      bit;
```

ListId: The list identifier of the List.

ResourceName: The name of the resource.

BitType: Specifies whether the resource string is a single line string or multi-line string. If its value is 0, the resource string is a single line. If its value is 1, the resource string is a multi-line string. It MUST NOT be NULL.

3.1.4.26.12 List All Resources Result Set

This Result Set MUST be returned.

The List All Resource Result Set contains information about all the resources defined for the lists to be exported. The List All Resource Result Set MUST contain one row for each resource. The all resources in the Result Set MUST be registered with the first 50 lists to be exported with export ordinals greater than @LastOrdinal, or if there are less than 50 lists with export ordinals greater than @LastOrdinal, information about all of their resources MUST be returned. If @SiteId does not match an existing Site Collection, this Result Set MUST be empty.

The List All Resources Result Set is defined using T-SQL syntax, as follows:

```
ListId          uniqueidentifier,  
ResourceName    nvarchar(256),  
BitDirty        bit,  
LCID            int,  
NvarcharVal     nvarchar(256),  
NtextVal        nvarchar(max);
```

ListId: The list identifier of the List.

ResourceName: The name of the resource.

BitDirty: This bit column indicates if the resource is dirty.

LCID: The Language Code Identifier (LCID) for the resource string.

NvarcharVal: The value of the user resource string to be added when the BitType is 0. If the BitType is 1, it MUST be NULL.

NtextVal: The value of the user resource string to be added when the BitType is 1. If the BitType is 0, it MUST be NULL.

3.1.4.27 proc_DeplGetListItemAndReserveId

The proc_DeplGetListItemAndReserveId stored procedure is called to determine if a Document already exists in a list, and if not, reserve an identifier for adding a new Document. proc_DeplGetListItemAndReserveId is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetListItemAndReserveId(  
    @SiteId          uniqueidentifier,  
    @ListId          uniqueidentifier,  
    @IsListItem      bit,  
    @DocId           uniqueidentifier OUTPUT,
```

```

@IsDeleted          bit OUTPUT,
@ListItemId         int OUTPUT,
@WebId              uniqueidentifier,
@OriginalListItemId int,
@IsIdTaken          bit OUTPUT,
@ListItemUrl        nvarchar(260) OUTPUT,
@DeleteRecycleBinItems bit = 0,
@RequestGuid        uniqueidentifier = NULL OUTPUT
);

```

@SiteId: The site collection identifier for the **Site Collection** to operate on.

@ListId: The list identifier for the list to operate on.

@IsListItem: If this is 1, the Document exists, and the Document is marked for deletion and @DeleteRecycleBinItems is 1 then assume the Document does not exist. This MUST be used for when the Document is not a Folder and not a File but a List item.

@DocId: The document identifier for the document. Either @DocId or @ListItemUrl MUST have a valid input value to get a valid output for @DocId and @ListItemUrl. If the input value in @DocId does not match the identifier of an existing Document, the output value of @DocId MUST be the identifier of the Document referred to by the input value of @ListItemUrl. Otherwise, the output value of @DocId MUST be the same as the input value of @DocId.

@IsDeleted: When proc_DeplGetListItemAndReserveId returns, this MUST output 1 if the Document is marked for deletion in the Recycle Bin. Otherwise, the output MUST be 0.

@ListItemId: If the Document exists, proc_DeplGetListItemAndReserveId MUST output in @ListItemId the list item identifier of the row in the document library which represents this Document. If the Document does not exist, proc_DeplGetListItemAndReserveId MUST output the next available identifier reserved by proc_DeplGetListItemAndReserveId.

@WebId: The site identifier for the Site to operate on.

@OriginalListItemId: If the list item does not exist and @OriginalListItemId is not already used as a list item identifier in this list, then proc_DeplGetListItemAndReserveId MUST reserve @OriginalListItemId as a list item identifier and the output of @ListItemId MUST be @OriginalListItemId. If the list item does exist or if @OriginalListItemId is already in use, this MUST be ignored.

@IsIdTaken: If the identifier specified in @OriginalListItemId is already being used as the identifier of a list item, output 1. Otherwise, output 0.

@ListItemUrl: Either @DocId or @ListItemUrl MUST have a valid input value to get a valid output for @DocId and @ListItemUrl. The input value of @ListItemUrl MUST be a Store-Relative form URL. If the Document matching @DocId exists, then proc_DeplGetListItemAndReserveId MUST output the Server-Relative URL of the Document in @ListItemUrl. Otherwise, the output value of @ListItemUrl MUST be the same as its input value.

@DeleteRecycleBinItems: If this is 1, the Document exists, and the Document is marked for deletion, the Document and all items deleted in the same transaction MUST be emptied from the Recycle Bin. If the Document is removed from the Recycle Bin, @IsDeleted MUST have output 0. If @DeleteRecycleBinItems is 0, the Recycle Bin MUST NOT be emptied.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which MUST be listed in the following table:

Value	Description
0	The document does not exist or is in the Recycle Bin.
1	The document already exists.
87	@SiteId is NULL or @ListId is NULL.

Result Sets: MUST NOT return any result sets.

3.1.4.28 **proc_DeplGetListItemByDocId**

The `proc_DeplGetListItemByDocId` Stored Procedure is called to retrieve information about a Document in a list. `proc_DeplGetListItemByDocId` is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetListItemByDocId(  
    @SiteId                uniqueidentifier,  
    @ListId                uniqueidentifier,  
    @DocId                 uniqueidentifier,  
    @IsDeleted             bit OUTPUT,  
    @ListItemId            int OUTPUT,  
    @RequestGuid           uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** containing this Document.

@ListId: The list identifier for the list containing this Document.

@DocId: The document identifier of the Document.

@IsDeleted: Outputs 1 if the Document is marked for deletion. Otherwise, outputs 0.

@ListItemId: Outputs the list item identifier of the row in the Document library. If @SiteId, @ListId, or @DocId do not match any existing objects, the output value of @ListItemId MUST be the same as its input value.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.29 **proc_DeplGetListItemByUrl**

The `proc_DeplGetListItemByUrl` Stored Procedure is called to retrieve information about a list item based on its Directory Name and Leaf Name. `proc_DeplGetListItemByUrl` is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetListItemByUrl(  
    @SiteId                uniqueidentifier,  
    @ListId                uniqueidentifier,  
    @DirName               nvarchar(256),  
    @LeafName              nvarchar(128),  
    @IsDeleted             bit OUTPUT,
```

```

        @ListItemId          int OUTPUT,
        @RequestGuid         uniqueidentifier = NULL OUTPUT
    );

```

@SiteId: The site collection identifier for the **Site Collection** containing this list.

@ListId: The list identifier for the list containing this list item.

@DirName: The Directory Name of the list item.

@LeafName: The Leaf Name of the list item.

@IsDeleted: Outputs 1 if the list item is marked for deletion. Otherwise, outputs 0.

@ListItemId: The list item identifier of the row in the list which represents this list item. If the list item is not found, the output value of @ListItemId MUST be the same as its input value.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.30 proc_DeplGetListItemData

The proc_DeplGetListItemData stored procedure is called to return information about the list items to be processed during an export operation. proc_DeplGetListItemData is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplGetListItemData(
    @SiteId          uniqueidentifier,
    @LastOrdinal     int,
    @VersionSetting   int,
    @ListId          uniqueidentifier,
    @Columns          nvarchar(1700),
    @IsSolutionGallery bit = 1,
    @RequestGuid      uniqueidentifier = NULL OUTPUT
);

```

@SiteId: The site collection identifier for the **Site Collection** containing the list items.

@LastOrdinal: All list items returned MUST have export ordinals greater than @LastOrdinal. When calling proc_DeplGetListItemData for the first time, set @LastOrdinal to 0. When calling proc_DeplGetListItemData to retrieve more data, set @LastOrdinal to the largest Ordinal value returned in the previous call.

@VersionSetting: If this is 1, proc_DeplGetListItemData MUST return only current information with a Publishing Level of Published. If this is 4, proc_DeplGetListItemData MUST return data for all versions, except data about versions with a Publishing Level of Checked Out. For all other values, proc_DeplGetListItemData MUST return current version data, except data about versions with a Publishing Level of Checked Out.

@ListId: The list identifier for the list containing the list items.

@Columns: A comma-separated list of application-defined fields in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3, to return in the Result Set. These are the columns marked as

nvarchar#, ntext#, sql_variant#, int#, float#, datetime#, bit#, and uniqueidentifier1 in the description of AllUserData Table. Example: 'ntext1, ntext3, int10'.

@IsSolutionGallery: The optional parameter that MUST be either 0 or 1. When set to 1, @ListId is the identifier for the **solution gallery** list. When set to 0, @ListId is not the identifier for the solution gallery list.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return ten result sets in the following order:

3.1.4.30.1 List Item Data Result Set

The List Item Data Result Set returns information about the current version of list items to be exported. The List Item Data Result Set MUST contain one row for each of the first 200 list items with export ordinals greater than @LastOrdinal, or one row for each list item that remains to be exported, whichever is smaller. Information about versions with a Publishing Level of Checked Out MUST NOT be returned.

The List Item Data Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
ExportObjectUrl	nvarchar(260),
Ordinal	int,
ParentId	uniqueidentifier,
DirName	nvarchar(256),
LeafName	nvarchar(128),
IntId	int,
tp_RowOrdinal	int,
tp_UIVersion	int,
tp_Author	int,
tp_Editor	int,
tp_Modified	datetime,
tp_Created	datetime,
tp_Ordering	varchar(512),
tp_HasAttachment	bit,
tp_ModerationStatus	int,
tp_IsCurrent	bit,
tp_ItemOrder	float,
tp_InstanceID	int,
tp_CopySource	nvarchar(260),
tp_HasCopyDestinations	bit,
tp_AuditFlags	int,
tp_InheritAuditFlags	int,
tp_ContentTypeId	varbinary(512),
tp_ThreadIndex	varbinary(512),
tp_UIVersionString	nvarchar(61),
Id	uniqueidentifier,
Type	tinyint,
FolderId	uniqueidentifier,
ProgId	nvarchar(255),
SortBehavior	tinyint,
Acl	image,
UserLoginName	nvarchar(255),
GroupName	nvarchar(255),

tp_Level tinyint;

Id: Identifier of the list item that is used by the export process.

ExportObjectUrl: The full Store-Relative Form URL for the list item.

Ordinal: An identifier of the list item that is a number used with the @LastOrdinal parameter. All rows returned MUST have an ordinal value greater than @LastOrdinal. The ordinals of all rows returned MUST be in ascending order.

ParentId: The identifier of the list containing this list item.

DirName: The **Directory Name** of the list item.

LeafName: The **Leaf Name** of the list item.

IntId: The identifier for the list item, uniquely identifying it within the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

tp_RowOrdinal: The zero-based ordinal index of this row in the set of rows representing the list item. Additional rows are used to represent list items which have more application-defined columns of one or more data types than can fit in a single row in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3. This Result Set MUST contain only rows with tp_RowOrdinal equal to 0.

tp_UIVersion: The user interface (UI) version number associated with this list item. The default value of tp_UIVersion is 512, which corresponds to a displayed version of 1.0.

tp_Author: The **User identifier** for the user who created the list item.

tp_Editor: The User identifier for the user who last edited the list item.

tp_Modified: A date/time value in UTC specifying when this list item was last modified.

tp_Created: A date/time value in UTC specifying when this list item was created.

tp_Ordering: A concatenation of timestamp values in yyyyMMddHHmmss (year, month, day, hour, minute, second) format, specifying the threading structure of the list items in a legacy discussion board list (a list with a List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11, of 3). For list items in all other types of lists, this parameter MUST be NULL.

tp_HasAttachment: A bit set to 1 if the list item has an **attachment** associated with it, otherwise set to 0.

tp_ModerationStatus: A moderation status value indicating the current moderation approval status of the list item.

tp_IsCurrent: A bit set to 1 if this is a current version of this list item, otherwise set to 0.

tp_ItemOrder: A value used to calculate the relative order in which to view the list item when displayed with other list items from the same list.

tp_InstanceID: If this list item is associated with a particular instance of a recurring meeting, this is the integer identifier of that instance. For all other list items, this MUST be NULL.

tp_CopySource: The URL used as a source for the list item. If this list item is not copied from a source list item, this value MUST be NULL.

tp_HasCopyDestinations: This bit is set to 1 if destination locations for the list item to be copied to have been set. This bit is set to 0, if the list item does not have a destination location set. This is NULL, if the list item never had a destination location.

tp_AuditFlags: An **audit flags** value determining the operations to be tracked on this list item.

tp_InheritAuditFlags: An audit flags value for the operations to be tracked on this list item, as determined from parent container audit flags settings.

tp_ContentTypeId: The binary identifier of the Content Type associated with the list item.

tp_ThreadIndex: A binary structure specifying the list item's position within a legacy discussion board list (a list with a List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11, of 3). For list items in all other types of list, this parameter MUST be NULL.

tp_UIVersionString: A calculated column containing the value of the tp_UIVersion column as a displayed version string.

Id: The identifier of the Document associated with this list item.

Type: An integer identifier specifying the Document Store Type, specified in [\[MS-WSSFO2\]](#) section 2.2.3.4, of the Document.

FolderId: The document identifier of the Document's parent container.

ProgId: Designates a preferred Application to open the Document.

SortBehavior: This value MUST be ignored.

Acl: The binary serialization of the WSS ACL Format access control list, specified in [\[MS-WSSFO2\]](#) section 2.2.5.6, for this Document. This is either explicitly defined or inherited from the parent object.

UserLoginName: If @ListId is the identifier of the user information list and the list item is a user, then UserLoginName MUST be the Login Name for the security principal. Otherwise, this MUST be NULL.

GroupName: If @ListId is the identifier of the user information list and the list item is a group, then GroupName MUST be the name of the group. Otherwise, this MUST be NULL.

tp_Level: A **Publishing Level** value specifying the publishing status of this version of the list item.

3.1.4.30.2 Field Data Result Set

The Field Data Result Set returns Field data for the current versions of the list items in the specified list. If @VersionSetting is 1, only list item information with a Publishing Level of Published will be returned. Otherwise, data for one instance of each unique list item will be returned, except information about versions with a Publishing Level of Checked Out.

The Field Data Result Set MUST return the first 200 list items with export ordinals greater than @LastOrdinal, or all the remaining list items with export ordinals greater than @LastOrdinal, whichever is less. The Field Data Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
IntId	int,
Id	uniqueidentifier,
tp_UIVersion	int,

tp_UIVersionString	nvarchar(61),
tp_RowOrdinal	int,
<Fields specified by @Columns>	<types will vary>,
tp_Level	tinyint;

Id: Identifier used by the export process to refer to the list item.

IntId: The identifier for the list item, uniquely identifying it within the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

Id: The identifier of the Document associated with this list item.

tp_UIVersion: The user interface (UI) version number associated with this list item. The default value of tp_UIVersion is 512, which corresponds to a displayed version of 1.0.

tp_UIVersionString: A calculated column containing the value of the tp_UIVersion column as a displayed version string.

tp_RowOrdinal: The zero-based ordinal index of this row in the set of rows representing the list item. Additional rows are used to represent list items which have more application-defined columns of one or more data types than can fit in a single row in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

<Fields specified by @Columns>: This part of the Result Set MUST contain one column for each column specified in the @Columns parameter. The data returned will be from the application-defined fields of the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3, that matches the names specified in the @Columns parameter.

tp_Level: A publishing level value specifying the publishing status of this version of the list item.

3.1.4.30.3 Multi Lookup Result Set

The Multi Lookup Result Set returns the current version of the information about list items that lookup multiple values in another list. If @VersionSetting is 1, only list item information with a Publishing Level of Published will be returned. Otherwise, data for one instance of each unique list item will be returned, except information about versions with a Publishing Level of Checked Out.

The Multi Lookup Result Set will return information about the first 200 list items to be exported with Export Ordinals greater than @LastOrdinal, or if there are less than 200 list items with Export Ordinals greater than @LastOrdinal, information about all of them MUST be returned. The Result Set MUST be ordered by the Export Ordinal, then tp_FieldId, and then tp_Ordinal. The Multi Lookup Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
tp_FieldId	uniqueidentifier,
IntId	int,
tp_UIVersion	int,
tp_Level	tinyint,
tp_Ordinal	int;

Id: The identifier used by the Export Operation to refer to the list item.

tp_FieldId: The identifier of the Field with the multi-value lookup.

IntId: The identifier in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3, for the list item containing the data being looked up.

tp_UIVersion: The user interface (UI) version number. The default value of tp_UIVersion is 512, which corresponds to a displayed version of 1.0.

tp_Level: A **Publishing Level** value specifying the publishing status of this version of the list item.

tp_Ordinal: Ordinal number used to determine the ordering of the values returned in the IntId column.

3.1.4.30.4 List Item Versions Result Set

The List item Versions Result Set returns information about the list items to be exported. If @VersionSetting is 4, information about all versions of the list items will be returned. Otherwise, only information about the current version will be returned. Information about versions of list items with a Publishing Level of Checked Out MUST NOT be returned. The List Item Versions Result Set MUST return the first 200 list items with Export Ordinals greater than @LastOrdinal, or if there are less than 200 list items with Export Ordinals greater than @LastOrdinal, information about all of the remaining list items MUST be returned. The Result Set must be ordered first by the Export Ordinal, and then tp_UIVersion. The List Item Versions Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
ExportObjectUrl	nvarchar(260),
Ordinal	int,
ParentId	uniqueidentifier,
DirName	nvarchar(256),
LeafName	nvarchar(128),
IntId	int,
tp_RowOrdinal	int,
tp_UIVersion	int,
tp_Author	int,
tp_Editor	int,
tp_Modified	datetime,
tp_Created	datetime,
tp_Ordering	varchar(512),
tp_HasAttachment	bit,
tp_ModerationStatus	int,
tp_IsCurrent	bit,
tp_ItemOrder	float,
tp_InstanceID	int,
tp_CopySource	nvarchar(260),
tp_HasCopyDestinations	bit,
tp_AuditFlags	int,
tp_InheritAuditFlags	int,
tp_ContentTypeId	varbinary(512),
{tp_ThreadIndex}	varbinary(512),
tp_UIVersionString	nvarchar(61),
{Id}	uniqueidentifier,
{Type}	tinyint,
{FolderId}	uniqueidentifier,
{ProgId}	nvarchar(255),
{Acl}	image,
{UserLoginName}	nvarchar(255),
{GroupName}	nvarchar(255),
tp_Level	tinyint;

Id: Identifier used by the Export Operation to refer to the list item.

ExportObjectUrl: The full Store-Relative Form URL for the list item.

Ordinal: The Export Ordinal of the list item. All rows returned MUST have an ordinal value greater than @LastOrdinal.

ParentId: The identifier of the list containing this list item.

DirName: The Directory Name of the list item.

LeafName: The Leaf Name of the list item.

IntId: The identifier for the list item, uniquely identifying it within the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

tp_RowOrdinal: The zero-based ordinal index of this row in the set of rows representing the list item. Additional rows are used to represent list items which have more application-defined columns of one or more data types than can fit in a single row in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

tp_UIVersion: The user interface (UI) version number associated with this list item. The default value of tp_UIVersion is 512, which corresponds to a displayed version of 1.0.

tp_Author: The **User** identifier for the user who created the list item.

tp_Editor: The User identifier for the user who last edited the list item.

tp_Modified: The time value in UTC specifying when this list item was last modified.

tp_Created: The time value in UTC specifying when this list item was created.

tp_Ordering: A concatenation of timestamp values in yyyyMMddHHmmss format (year, month, day, hour, minute, second), specifying the threading structure of the list items in a legacy discussion board list (a list with a List Base Type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.11, of 3). For list items in all other types of list, this parameter MUST be NULL.

tp_HasAttachment: This MUST be 1 if the list item has an **attachment** associated with it, otherwise this MUST be 0.

tp_ModerationStatus: A moderation status value indicating the current moderation approval status of the list item.

tp_IsCurrent: This MUST be 1 if this is a current version of this list item, otherwise this MUST be 0.

tp_ItemOrder: A value used to calculate the relative order in which to view the list item when displayed with other list items from the same list.

tp_InstanceID: If this list item is associated with a particular instance of a Recurring Meeting, this is the integer identifier of that instance. For all other list items, this MUST be NULL.

tp_CopySource: The URL used as a source for the list item. If this list item is not copied from a source list item, this value MUST be NULL.

tp_HasCopyDestinations: This is set to 1 if destination locations for the list item to be copied to have been set. This is set to 0 if the list item does not have a destination location set. This is NULL if the list item never had a destination location.

tp_AuditFlags: An **audit flags** value determining the operations to be tracked on this list item.

tp_InheritAuditFlags: An audit flags value for the operations to be tracked on this list item, as determined from parent container audit flags settings.

tp_ContentTypeId: The binary identifier of the Content Type associated with the list item.

{tp_ThreadIndex}: This value MUST be NULL and MUST be ignored.

tp_UIVersionString: A calculated column containing the value of the tp_UIVersion column as a Displayed Version string.

{Id}: This value MUST be NULL and MUST be ignored.

{Type}: This value MUST be NULL and MUST be ignored.

{FolderId}: This value MUST be NULL and MUST be ignored.

{ProgId}: This value MUST be NULL and MUST be ignored.

{SortBehavior}: This value MUST be NULL and MUST be ignored.

{Acl}: This value MUST be NULL and MUST be ignored.

{UserLoginName}: This value MUST be NULL and MUST be ignored.

{GroupName}: This value MUST be NULL and MUST be ignored.

tp_Level: A **Publishing Level** value specifying the publishing status of this version of the list item.

3.1.4.30.5 Versions Fields Data Result Set

The Versions Fields Data Result Set returns Field data for the list items to be exported. If @VersionSetting is 4, information about all versions of the list items will be returned. Otherwise, only information about the current version will be returned. The Result Set MUST NOT contain information for versions of list items that have a Publishing Level of Checked Out.

The Versions Fields Data Result Set MUST return the first 200 list items with Export Ordinals greater than @LastOrdinal, or if there are less than 200 list items with Export Ordinals greater than @LastOrdinal, information about all of them MUST be returned. The Result Set MUST be ordered first by the Export Ordinal, and then tp_UIVersion. The Versions Fields Data Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
IntId	int,
DocId	uniqueidentifier,
tp_UIVersion	int,
tp_UIVersionString	nvarchar(61),
tp_RowOrdinal	int,
<Fields specified by @Columns>	<types will vary>,
tp_Level	tinyint;

Id: The identifier used by the Export Operation to refer to the list item.

IntId: The identifier for the list item uniquely identifying it within the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

DocId: The document identifier of the **Document associated with this list item**.

tp_UIVersion: The user interface (UI) version number associated with this list item. The default value of tp_UIVersion is 512, which corresponds to a **Displayed Version** of 1.0.

tp_UIVersionString: A calculated column containing the value of the tp_UIVersion column as a Displayed Version string.

tp_RowOrdinal: The zero-based ordinal index of this row in the set of rows representing the list item. Additional rows are used to represent list items which have more application-defined columns of one or more data types than can fit in a single row in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

<Fields specified by @Columns>: This part of the Result Set MUST contain one column for each column specified in the @Columns parameter. The data returned will be from the application-defined fields of the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3 that matches the names specified in the @Columns parameter.

tp_Level: A **Publishing Level** value specifying the publishing status of this version of the list item.

3.1.4.30.6 Versions Multi Lookup Result Set

The Versions Multi Lookup Result Set returns the information about list items that lookup multiple values in another list. If @VersionSetting is 4, information about all versions of the list items MUST be returned. Otherwise, only information about the current version will be returned. The Result Set MUST NOT contain information for versions of list items that have a Publishing Level of Checked Out.

The Versions Multi Lookup Result Set will return information about the first 200 list items to be exported with Export Ordinals greater than @LastOrdinal, or if there are less than 200 list items with Export Ordinals greater than @LastOrdinal, information about all of them MUST be returned. The Result Set MUST be ordered by the Export Ordinal, then tp_FieldId, and then tp_Ordinal. The Versions Multi Lookup Result Set is defined using T-SQL syntax, as follows:

```
Id                uniqueidentifier,
DocId             uniqueidentifier,
tp_FieldId        uniqueidentifier,
IntId             int,
tp_UIVersion       int,
tp_Level          tinyint,
tp_Ordinal        int;
```

Id: The identifier used by the Export Operation to refer to the list item.

DocId: The document identifier of the Document associated with the list item containing the lookup.

tp_FieldId: The identifier of the Field with the multi-value lookup.

IntId: The identifier in the AllUserData Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3, for the list item containing the data being looked up.

tp_UIVersion: The user interface (UI) version number. The default value of tp_UIVersion is 512, which corresponds to a **Displayed Version** of 1.0.

tp_Level: A **Publishing Level** value specifying the publishing status of this version of the list item.

tp_Ordinal: Ordinal number used to determine the ordering of the values returned in the IntId column.

3.1.4.30.7 List Item Links Result Set

The List Item Links Result Set returns information about the links, in server-relative form, in the list items to be exported. If @VersionSetting is 1, only list item information with a Publishing Level of Published will be returned. Otherwise, data for all versions of list item information with a Publishing Level that is not Checked Out will be returned.

The List Item Links Result Set will return information for the first 200 list items with export ordinals greater than @LastOrdinal, or all list items with export ordinals greater than @LastOrdinal, whichever is less. The List Item Links Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
{TargetDocId}	uniqueidentifier,
TargetUrl	nvarchar(261) ,
WebPartId	uniqueidentifier,
LinkNumber	int,
Type	tinyint,
Security	tinyint,
Dynamic	tinyint,
ServerRel	bit,
Level	tinyint,
Search	ntext;

Id: Identifier used by the Export Operation to refer to the list item.

{TargetDocId}: The identifier of the Document that the link points to. If the Document is not found, a new identifier will be generated.

TargetUrl: Server-relative URL of the link. This MUST begin with a slash.

WebPartId: The identifier of the Web Part containing the link.

LinkNumber: An ordinal value denoting the relative order of this hyperlink within the source of the Document, Web Part, or Field being processed.

Type: Type of the link. These values are specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.8.

Security: A one byte (tinyint) value represented as a single upper case ASCII character specifying the Link's type of URL. These values are specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.8.

Dynamic: A one byte (tinyint) value represented as a single upper case ASCII character which tracks various special Link Types. These values are specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.8.

ServerRel: This value MUST be 1.

Level: The Publishing Level of this version of the Document.

Search: Search parameters for forward links. The link source starts at either the query string signifier '?' or the bookmark signifier '#'.

3.1.4.30.8 Attachments Result Set

The Attachments Result Set returns information about the attachments in the specified list items to export. This Result Set MUST only be returned if @ListId matches an existing list identifier and the Document associated with the list's URL can be found. The Attachments Result Set MUST return information for the first 200 list items with Export Ordinal values greater than @LastOrdinal, or all list items with Export Ordinal values greater than @LastOrdinal, whichever is less. The Result Set MUST be ordered by Export Ordinal. The Attachments Result Set is defined using T-SQL syntax, as follows:

ListItemId	uniqueidentifier,
DocId	uniqueidentifier,
WebId	uniqueidentifier,
ListId	uniqueidentifier,
ScopeId	uniqueidentifier,
MetaInfo	varbinary(max),
TimeCreated	datetime,
TimeLastModified	datetime,
Size	int,
DirName	nvarchar(256),
LeafName	nvarchar(128),
Url	nvarchar(260);

ListItemId: The list item identifier of the list item that's used by the export process.

DocId: The document identifier of the Document.

WebId: The site identifier for the Site containing this Document.

ListId: The list identifier of the list containing the Document.

ScopeId: The identifier **of the Scope which contains the Document.**

MetaInfo: A **Metadict** for the Document. The Metadict format is specified in [\[MS-FPSE\]](#) section 2.2.2.5.3.

TimeCreated: Date/time value in UTC specifying when this Document was created.

TimeLastModified: A datetime containing a timestamp in UTC specifying when the Document was last saved. This value does not necessarily correspond to the actual time when the Document was last modified.

Size: The number of bytes in the **Document Stream**.

DirName: The Directory Name of the Document.

LeafName: The Leaf Name of the Document.

Url: The full Store-Relative Form URL for the specified Document.

3.1.4.30.9 Missing List Result Set

The Missing List Result Set MUST only be returned if @ListId does not match an existing list identifier or if the Document associated with the list's URL cannot be found.

The Missing List Result Set is a placeholder that MUST have 0 rows. The Missing List Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
DocId	uniqueidentifier,
WebId	uniqueidentifier,
ListId	uniqueidentifier,
ScopeId	uniqueidentifier,
MetaInfo	varbinary(max),
TimeCreated	datetime,
TimeLastModified	datetime,
Size	int,
DirName	nvarchar(256),
LeafName	nvarchar(128),
Url	nvarchar(260);

Id: Identifier of the Document.

DocId: The document identifier of the Document.

WebId: The site identifier for the Site containing this Document.

ListId: The list identifier of the list containing the Document.

ScopeId: The identifier of the Scope which contains the Document.

MetaInfo: A **Metadict** for the Document. The Metadict format is specified in [\[MS-FPSE\]](#) section 2.2.2.5.3.

TimeCreated: Date/time value in UTC specifying when this Document was created.

TimeLastModified: A datetime containing a timestamp in UTC specifying when the Document was last saved. This value does not necessarily correspond to the actual time when the Document was last modified.

Size: The number of bytes in the **Document Stream**.

DirName: The Directory Name of the Document.

LeafName: The Leaf Name of the Document.

Url: The full Store-Relative Form URL for the specified Document.

3.1.4.30.10 List Item Event Receivers Result Set

The List Item Event Receivers Result Set returns information about the event receivers defined for the list items to be exported. The List Item Event Receivers Result Set **MUST** contain information for the first 200 list items with export ordinals greater than @LastOrdinal, or all list items with export ordinals greater than @LastOrdinal, whichever is less. The List Item Event Receivers Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
HostId	uniqueidentifier,
WebId	uniqueidentifier,
Name	nvarchar(256),
HostType	int,
ItemId	int,
Synchronization	int,
Type	int,
SequenceNumber	int,

Assembly	nvarchar(256),
Class	nvarchar(256),
SolutionId	uniqueidentifier,
Data	nvarchar(256),
Filter	nvarchar(256),
Credential	int,
ListItemId	uniqueidentifier;

Id: The identifier of the event receiver.

HostId: The identifier of the event host that the event receiver is associated with.

WebId: The site identifier for the Site that contains the event receiver.

Name: The name of the event receiver.

HostType: The type of the event host that the event receiver is associated with. HostType MUST be a value of event host type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.5.

ItemId: Reserved. A client MUST NOT use ItemId.

Synchronization: An ordinal that determines whether the event receiver should be triggered synchronously or asynchronously.

Type: The type of the event receiver. Type MUST be a value of event receiver type, specified in [\[MS-WSSFO2\]](#) section 2.2.4.6.

SequenceNumber: An ordinal that determines the order in which the event receiver is triggered. SequenceNumber MUST be greater than OR equal to 0 AND less than OR equal to 65535.

Assembly: The name of the .NET assembly that contains the class definition of the event receiver.

Class: The fully qualified name of the .NET class definition for the event receiver.

SolutionId: The identifier of the solution that installed the event receiver.

Data: Additional Unicode data persisted on behalf of the event receiver implementation to be passed to the event receiver.

Filter: Reserved. A client MUST NOT use Filter.

Credential: Reserved. A client MUST NOT use Credential.

ListItemId: Identifier used by the Export Operation to refer to the list item in the table of export objects.

3.1.4.30.11 List Item Solutions Result Set

The List Item Solutions Result Set returns information about the [\[MS-WSSPROG2\]](#) section 2.2.4.1 corresponding to the document. If @IsSolutionGallery is 0 then 0 rows MUST be returned. The List Item Solutions Receivers Result Set MUST contain information for the first 200 list items with export ordinals greater than @LastOrdinal, or all list items with export ordinals greater than @LastOrdinal, whichever is less. The List Item Solutions Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
Status	smallint,

Id: Identifier of the document.

Status: A sandboxed solution status value specified in [\[MS-WSSPROG2\]](#) section 2.2.4.1 corresponding to the status of the sandboxed solution.

3.1.4.31 **proc_DeplGetLookupItemData**

The `proc_DeplGetLookupItemData` stored procedure is called to return information about list items in a given list that are referenced by other lists. `proc_DeplGetLookupItemData` is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetLookupItemData(  
    @SiteId          uniqueidentifier,  
    @ListId          uniqueidentifier,  
    @RequestGuid     uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** containing the list items.

@ListId: The list identifier for the list containing the list items.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client **MUST** ignore.

Result Sets: **MUST** return the following Result Set:

3.1.4.31.1 **Lookup Data Result Set**

The Lookup Data Result Set returns information about list items that are referenced by other lists. The Lookup Data Result Set is defined using T-SQL syntax, as follows:

```
Id          int,  
Id          uniqueidentifier,  
{URL}      nvarchar(261),  
Included    bit;
```

Id: The identifier for the list item, uniquely identifying it within the `AllUserData` Table, specified in [\[MS-WSSFO2\]](#) section 2.2.8.3.

Id: The identifier of the Document associated with this list item.

{URL}: The Server-relative URL of this Document. This **MUST** begin with a slash.

Included: If this Document is in the table of export objects, this **MUST** be 1. Otherwise, this **MUST** be 0.

3.1.4.32 **proc_DeplGetLookupListUrl**

The `proc_DeplGetLookupListUrl` stored procedure is called to retrieve the URL of the list. `proc_DeplGetLookupListUrl` is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetLookupListUrl(  
    @SiteId          uniqueidentifier,  
    @ListId          uniqueidentifier,
```

```

        @Url          nvarchar(260) OUTPUT,
        @RequestGuid  uniqueidentifier = NULL OUTPUT
    );

```

@SiteId: The site collection identifier for the **Site Collection** containing the list.

@ListId: The list identifier for the list.

@Url: This will output the Server-relative URL of the list. The output **MUST** begin with a slash, unless the list is not found. If the list is not found, this output value **MUST** be the same as its input value.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client **MUST** ignore.

Result Sets: **MUST NOT** return any result sets.

3.1.4.33 proc_DeplGetNextObjectBatch

The proc_DeplGetNextObjectBatch stored procedure is called during an Export Operation to select the next set of Export Objects that need to be exported. proc_DeplGetNextObjectBatch is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplGetNextObjectBatch(
    @LastOrdinal    int,
    @RequestGuid    uniqueidentifier = NULL OUTPUT
);

```

@LastOrdinal: All Export Objects returned by proc_DeplGetNextBatch **MUST** have values in the Ordinal column greater than @LastOrdinal. When calling proc_DeplGetNextObjectBatch for the first time, set @LastOrdinal to 0. When calling proc_DeplGetNextObjectBatch to retrieve more Objects set @LastOrdinal to the largest Ordinal value returned in the previous call to proc_DeplGetNextObjectBatch.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client **MUST** ignore.

Result Sets: **MUST** return the following result set:

3.1.4.33.1 Export Object Batch Result Set

Export Object Batch Result Set returns the next set of export objects to be exported. The Export Object Batch Result Set **MUST** return 100 rows or one row for each object to be exported whichever is smaller. The Export Object Batch Result Set is defined using T-SQL syntax, as follows:

```

Id                uniqueidentifier,
Type              tinyint,
ParentId          uniqueidentifier,
ParentWebId       uniqueidentifier,
{FullUrl}         nvarchar(260)
Ordinal           int,
IsDeleted         tinyint,
ContentTypeId     varbinary(512),

```

```

{ParentWebUrl}      nvarchar(260),
EventTime           datetime,
ChangeLogId         bigint,
IsSiteRename        tinyint,
IsProvisioned       tinyint;

```

Id: The identifier of the object to be exported.

Type: A value that specifying the [deployment object type](#), specified in section 2.2.4.1, of the object stored in the row.

ParentId: The identifier of the parent of the object.

ParentWebId: The site identifier for the Site that the object lives in. For an Object of type root Site this MUST be NULL.

{FullUrl}: Server-relative URL of the Export Object.

Ordinal: The identifier of the Object used with the @LastOrdinal parameter. All rows returned MUST have an ordinal value greater than @LastOrdinal. The ordinals of all rows returned MUST be in increasing order.

IsDeleted: Whether the object was deleted. This is set to 1 if the Object was deleted; otherwise set to 0. Used only during an incremental export operation otherwise this MUST be ignored.

ContentTypeId: A Content Type identifier value describing the valid folder content types that this Export Object can be used to view. If this Export Object is not restricted to a particular content type, this value MAY be 0x or NULL.

{ParentWebUrl}: Server-relative URL of the Site that the object lives in. For an object of type root site, this MUST be NULL.

EventTime: The UTC time from the change log that the object was modified. Used only during an incremental export operation, otherwise this MUST be ignored.

ChangeLogId: The identifier of the Event. Used only during an incremental export operation, otherwise this MUST be ignored.

IsSiteRename: Whether the object was renamed. This is set to 1 if the Object is of type 1 and was renamed; otherwise set to 0. Used only during an incremental export operation otherwise this MUST be ignored.

IsProvisioned: Whether the object was provisioned. This is set to 1 if the object is of type 1 and has not been completely provisioned; otherwise, MUST be 0.

3.1.4.34 proc_DeplGetParentWebIdForList

The proc_DeplGetParentWebIdForList stored procedure is called to return information about the Site that contains the given list. proc_DeplGetParentWebIdForList is defined using T-SQL syntax, as follows:

```

PROCEDURE proc_DeplGetParentWebIdForList(
    @ListId            uniqueidentifier,
    @RequestGuid       uniqueidentifier = NULL OUTPUT
);

```

@ListId: The list identifier for the list.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: If the @ListId parameter is NULL then it MUST NOT return any Result Set. Otherwise, if the parameter is NOT NULL, then it MUST return the following Result Set:

3.1.4.34.1 Parent Site Result Set

The Parent Site Result Set returns information about the Site containing the list. The Parent Site Result Set MUST contain exactly one row if the list exists. Otherwise, it MUST contain 0 rows. The Parent Site Result Set is defined using T-SQL syntax, as follows:

```
tp_WebId          uniqueidentifier;
```

tp_WebId: The site identifier for the Site containing the list.

3.1.4.35 proc_DeplGetParentWebIdFromDocId

The proc_DeplGetParentWebIdFromDocId stored procedure is called to return information about the Site and list that contain a given Document. proc_DeplGetParentWebIdFromDocId is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetParentWebIdFromDocId(  
    @DocId          uniqueidentifier,  
    @RequestGuid    uniqueidentifier = NULL OUTPUT  
) ;
```

@DocId: The document identifier of the Document.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: If the @DocId is NULL then it MUST NOT return any Result Set. Otherwise, if @DocId is NOT NULL, then it MUST return the following Result Set:

3.1.4.35.1 Document Container Result Set

The Document Container Result Set returns information about the Site and list that contain the Document. The Document Container Result Set MUST contain one row if the Document exists. Otherwise, it MUST contain 0 rows. The Document Container Result Set is defined using T-SQL syntax, as follows:

```
WebId          uniqueidentifier,  
ListId         uniqueidentifier;
```

WebId: The site identifier for the **Site** containing the Document.

ListId: The list identifier of the list containing the Document. If the Document is not contained in a list, this MUST be NULL.

3.1.4.36 proc_DeplGetParentWebIdFromDocUrl

The proc_DeplGetParentWebIdFromDocUrl Stored Procedure is called to return the location of a specified **Document**. The Stored Procedure is defined using T-SQL syntax as follows:

```
PROCEDURE proc_DeplGetParentWebIdFromDocUrl (  
    @SiteId          uniqueidentifier,  
    @DocUrl          nvarchar(260) ,  
    @RequestGuid     uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** that contains a Document with the @DocUrl parameter value.

@DocUrl: A **Store-Relative** Form URL for a **Document** within the Site.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: If one of the @SiteId or @DocUrl parameters are NULL, then it MUST NOT return any Result Set. Otherwise if both the @SiteId and @DocUrl parameters are NOT NULL, then it MUST return the following Result Set:

3.1.4.36.1 Location Result Set

The Location Result Set contains information about the location of the document within the site collection. The Location Result Set MUST contain one row if the document is found within the site collection, and MUST contain 0 rows otherwise. The Location Result Set is defined using T-SQL syntax, as follows:

```
WebId          uniqueidentifier,  
ListId         uniqueidentifier;
```

WebId: The site identifier for the **Site**.

ListId: The list identifier of the list in the Site which contains the specified Document. If the Document is not in any list, this MUST be NULL.

3.1.4.37 proc_DeplGetRootObjects

The proc_DeplGetRootObjects stored procedure is called to return information about the root level objects (objects that do not have their parent objects included as part of the export) to be processed during an Export Operation. proc_DeplGetRootObjects is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_GetRootObjects(  
    @RequestGuid     uniqueidentifier = NULL OUTPUT  
);
```

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.37.1 Root Objects Result Set

The Root Objects Result Set returns information about objects being exported that do not have their parent objects also included as part of the export. The Root Objects Result Set is defined using T-SQL syntax, as follows:

Id	uniqueidentifier,
Type	tinyint,
ParentId	uniqueidentifier,
FullUrl	nvarchar(256),
FullUrl	nvarchar(260),
IsDependency	tinyint,
IsSelected	tinyint;

Id: Identifier used by the Export Operation to refer to the object being exported.

Type: An identifier specifying the object's [deployment object type](#), specified in section 2.2.3.1.

ParentId: Identifier of the parent of this object.

FullUrl: The Store-Relative Form URL of the Site containing this object.

FullUrl: The Store-Relative Form URL of this object.

IsDependency: This MUST be 1 if and only if the object is referenced from another object being exported using a Link. Otherwise, this MUST be 0.

IsSelected: This MUST be 1 if this object was chosen directly by the user for export. Otherwise, this MUST be 0.

3.1.4.38 proc_DeplGetSystemObjects

The proc_DeplGetSystemObjects stored procedure is called to return information about Migration System Objects that are referenced by objects to be exported. proc_DeplGetSystemObjects is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplGetSystemObjects(  
    @SiteId            uniqueidentifier,  
    @RequestGuid       uniqueidentifier = NULL OUTPUT  
);
```

@SiteId: The site collection identifier for the **Site Collection** containing the objects. MUST be the identifier of an existing Site Collection.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST return the following Result Set:

3.1.4.38.1 System Objects Result Set

The System Objects Result Set returns information about Migration System Objects that are referenced by objects to be exported. The System Objects Result Set MUST NOT contain identical rows.

The System Objects Result Set is defined using T-SQL syntax, as follows:

```
Id            uniqueidentifier,  
Type          tinyint,  
{Url}        nvarchar(261);
```

Id: The identifier of the object.

Type: An identifier specifying the object's [deployment object type](#), specified in section 2.2.3.1.

{Url}: The Server-relative URL of the object. This MUST begin with a slash.

3.1.4.39 proc_DeplOrderExportObjects

The proc_DeplOrderExportObjects stored procedure is called to sort the table of export objects. proc_DeplOrderExportObjects is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplOrderExportObjects(  
    @TestRun          tinyint,  
    @ObjectCount      int OUTPUT,  
    @RequestGuid      uniqueidentifier = NULL OUTPUT  
);
```

@TestRun: If this is 1, proc_DeplOrderExportObjects MUST only output a value for @ObjectCount and do nothing else. If @TestRun is not 1, objects to be exported are ordered by [deployment object type](#) specified in section 2.2.3.1, URL, and the time they were updated and proc_DeplOrderExportObjects MUST output a value for @ObjectCount.

@ObjectCount: Outputs the number of entries in the table of export objects.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.40 proc_DeplReserveNextAvailableId

The proc_DeplReserveNextAvailableId stored procedure is called to reserve a list item identifier in a given list during an Import Operation. proc_DeplReserveNextAvailableId is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplReserveNextAvailableId(  
    @WebId            uniqueidentifier,  
    @ListId           uniqueidentifier,  
    @ListItemId       int,  
    @RequestGuid      uniqueidentifier = NULL OUTPUT  
);
```

@WebId: The site identifier for the Site containing the list.

@ListId: The list identifier for the list.

@ListItemId: The list item identifier of the list item to reserve. There MUST be no action taken if @ListItemId is already in use.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.41 **proc_DeplUpdateWebProperties**

The proc_DeplUpdateWebProperties Stored Procedure is called to update various stored values of a given Site during an Import Operation. proc_DeplUpdateWebProperties is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_DeplUpdateWebProperties (
    @SiteId                uniqueidentifier,
    @WebId                 uniqueidentifier,
    @AlternateCSSUrl        nvarchar(260),
    @CustomizedCssFiles     nvarchar(260),
    @CustomJSUrl           nvarchar(260),
    @ExternalSecurityProvider uniqueidentifier,
    @ThemeComposite        nvarchar(64),
    @TimeCreated            datetime,
    @WebTemplateId          int,
    @ProvisionConfig        int,
    @RequestGuid            uniqueidentifier = NULL OUTPUT
);
```

@SiteId: This value MUST be ignored.

@WebId: The site identifier for the Site. If the Site is not found, proc_DeplUpdateWebProperties MUST NOT update anything.

@AlternateCSSUrl: New value for the URL for a custom cascading style sheet file registered on the Site for use in Pages of the Site. If this is "", the stored value MUST be set to NULL. If this is NULL, the stored value MUST NOT be changed.

@CustomizedCssFiles: New value of an implementation-specific list of custom cascading style sheet files associated with this Site. If this is "", the stored value MUST be set to NULL. If this is NULL, the stored value MUST NOT be changed.

@CustomJSUrl: New value of the URL for a custom JavaScript file registered on the Site for use in Pages of the Site. If this is "", the stored value MUST be set to NULL. If this is NULL, the stored value MUST NOT be changed.

@ExternalSecurityProvider: New value of the COM class of the external **security provider** for this site. If this is '00000000-0000-0000-0000-000000000000', the stored value MUST be set to NULL and the Site MUST use the native security implementation. If this is NULL, the stored value MUST NOT be changed.

@ThemeComposite: New value of the name of a **theme** that is used as part of the display of the Site. If this is "", the stored value MUST be set to NULL. If this is NULL, the stored value MUST NOT be changed.

@TimeCreated: New value of the timestamp in UTC specifying when this Site was created. If this is NULL, the timestamp MUST NOT be changed.

@WebTemplateId: New value of the identifier of the **site definition** that contains the **site template** configuration used to provision this Site. If this is NULL, the stored value MUST NOT be changed.

@ProvisionConfig: New value of the identifier of the Site Template Configuration used to provision this Site. If this is NULL, the stored value MUST NOT be changed.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which the protocol client MUST ignore.

Result Sets: MUST NOT return any result sets.

3.1.4.42 **proc_FileExists**

The **proc_FileExists** **Stored Procedure** is called to search if a **Document** exists in a **Site Collection**. **proc_FileExists** is defined using T-SQL syntax, as follows:

```
PROCEDURE proc_FileExists (
    @SiteId                uniqueidentifier,
    @WebId                 uniqueidentifier,
    @DocId                 uniqueidentifier,
    @Url                   nvarchar(260),
    @DeleteRecycleBinItems bit = 0,
    @IsDeleted              bit OUTPUT,
    @DocExists              bit OUTPUT,
    @DestDocId              uniqueidentifier OUTPUT,
    @RequestGuid            uniqueidentifier = NULL OUTPUT
);
```

@SiteId: The site collection identifier for the **Site Collection** which contains the specified Document.

@WebId: The site identifier for the Site used to find the specified **Document**. This parameter is used only if the **@Url** parameter is used to search for the **Document**.

@DocId: The document identifier of the document to find. If this parameter is NULL, the search is done using **@Url** parameter.

@Url: The URL of the **Document** to find. This parameter is used only if the **Document** defined by **@DocId** is not found in any **Site Collection** in the database, or the **Document** is found and then **removed** from the **Recycle Bin** or if **@DocId** is NULL .

@DeleteRecycleBinItems: This parameter is ignored if **@DocId** is NULL. If this parameter is equal to 1, and the Document exists in the Site Collection defined by **@SiteId**, and the Document is placed in the **Recycle Bin**, then the Document defined by **@DocId** will be **removed** from the **Recycle Bin**.

@IsDeleted: When the **Document** exists in the **Site** Collection defined by **@SiteId**, and the **Document** is in the **Recycle Bin**, the value of 1 is returned.

@DocExists: When the **Document** exists in any **Site Collection** in the database, the value of 1 is returned; otherwise the value of 0 is returned.

@DestDocId: If @DocId is not NULL then @DestDocId is equal to @DocId. If a **Document** is found using the @Url parameter for search, then @DestDocId is equal to the document identifier of the **Document** found.

@RequestGuid: The optional request identifier for the current request.

Return Code Values: An integer which **MUST** be listed in the following table:

Value	Description
0	Execution finished.
80	Returned when the Document specified by @DocId exists in a different Site Collection than the one defined by @SiteId, and it is found in the same database.

Result Sets: **MUST NOT** return any **Result Set**.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

3.2 Client Details

The **front-end Web server** acts as a client when it calls the back-end database server requesting execution of Stored Procedures.

3.2.1 Abstract Data Model

Same as section 3.1.1, [Abstract Data Model](#).

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Message Processing Events and Sequencing Rules

The **front-end Web server** handles each Stored Procedure with the same processing method of calling the Stored Procedure and waiting for the **return code** and any result sets that will be returned.

The **front-end Web server** can execute dynamically generated SQL queries against the Stored Procedures, or the Tables and Views used within the database. However, unless otherwise specified, any data addition, removal, or modification **MUST** occur only by calling the listed Stored Procedures.

SQL queries MUST NOT attempt to add, remove, or update data in any Table or View in the Content or Configuration databases, unless explicitly described in this section.

This protocol defines the following sequences which MUST be followed during export operations. The protocol client needs to create the table of export objects during an Export Operation. If the Export Operation is an Incremental Export Operation, the client needs to further create an Incremental Search Scope Table. The schemas of these tables and how they are created are implementation specific.

During an Import Operation, the protocol client needs to create a [#WebParts Table](#), section [2.2.7.4](#). The table will be deleted when the import operation is complete.

3.2.4.1 Export Sequence

Export sequence defines the order in which a number of stored procedures MUST be invoked to perform an export operation. Export sequence performs the following actions.

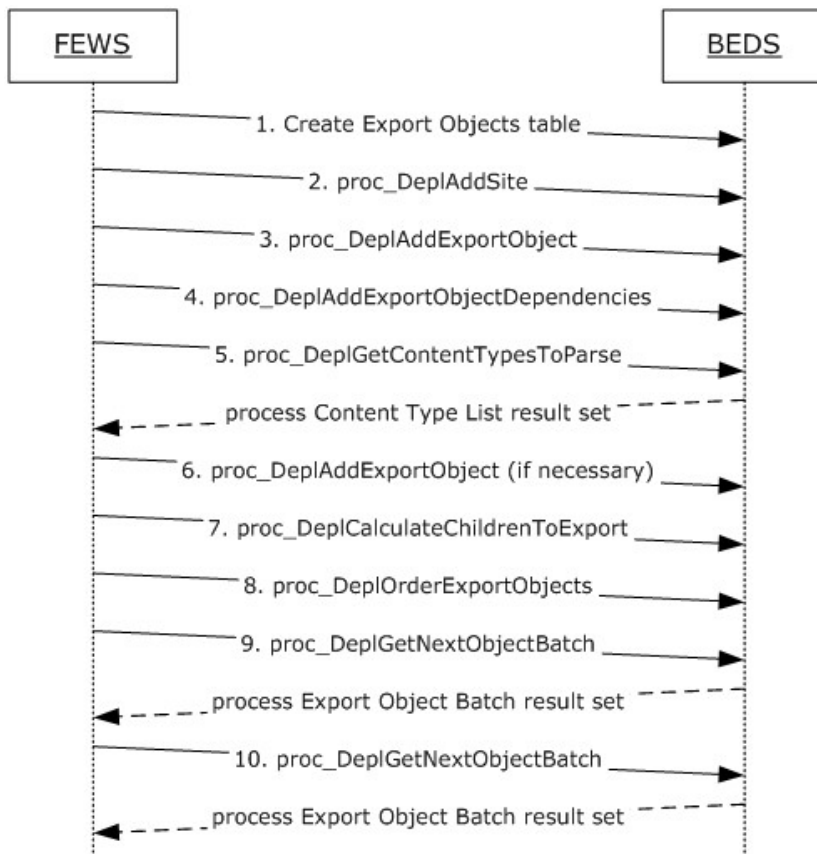


Figure 2: Create the table of export objects

1. Request creation of the table of export objects.
2. Specify the site collection that contains the data to be exported.
3. Add objects selected by the application to the table of export objects.

4. Calculate from the objects in the table of export objects what other data they need to function properly. Add those additional objects to the table of export objects as well.
5. Retrieve the list of content types to be exported. Calculate if additional objects need to be added to the table of export objects.
6. Add additional dependency objects found in (5).
7. Calculate Add child objects (for example subsites) if application has specified that those objects need to be included.
8. Order the objects in table of export objects based on type, time, and Url.
9. Retrieve the objects from the table of export objects in a batched fashion. Serialize them into XML.
10. Repeat step 9 until there is no more objects from the table of export objects. Steps 1 through 8 MUST be carried out in a batch. Failure to do so will cause the table of export objects to be insufficiently populated. As a result, the objects that are exported might not function properly together because some objects are missing.

3.2.4.2 Incremental Export Sequence

Incremental Export Sequence defines the order in which a number of stored procedures MUST be invoked to perform an Incremental Export Operation. Incremental Export Sequence performs the following sequences.

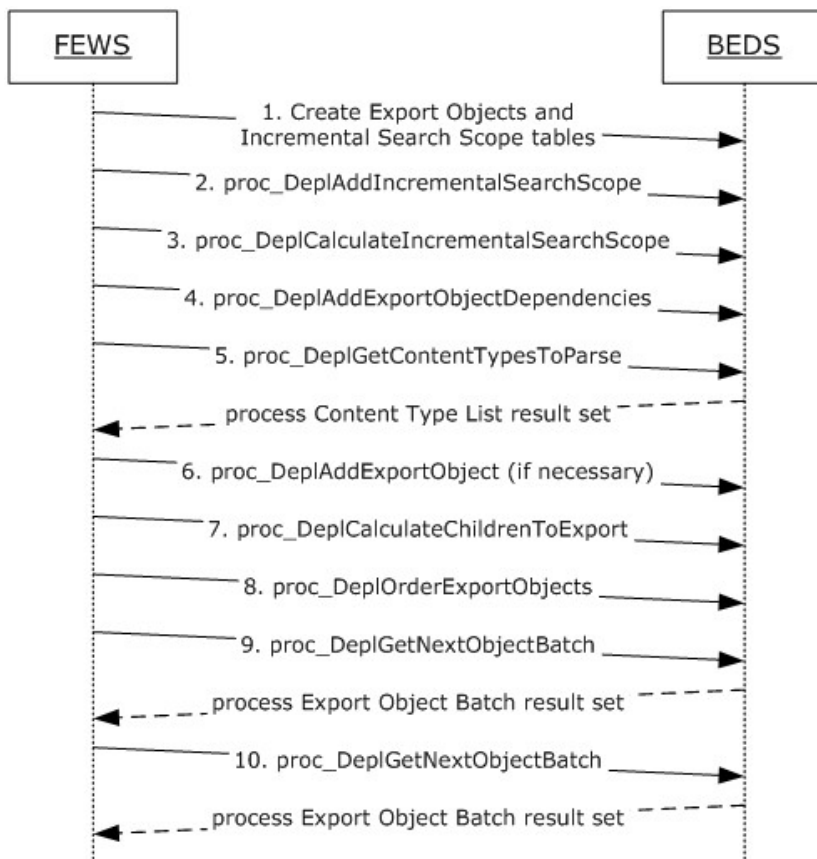


Figure 3: Create the table of export objects and the Incremental Search Scope Table

1. Create the table of export objects and the Incremental Search Scope Table.
2. Specify the sites that are included in the Incremental Export Operation.
3. Calculate any Subsites that need to be included as well.
4. Step 4 to 10 are the same as the ones illustrated in section 3.2.4.1, [Export Sequence](#).

3.2.4.3 Link Documents Export Sequence

The Link Documents Export Sequence defines the order in which a number of stored procedures MUST be called to include link documents into the table of export objects. This sequence MUST be used as part of either the [Export Sequence](#), section 3.2.4.1, or the [Incremental Export Sequence](#), section 3.2.4.2. When used in either sequence, it MUST be inserted between steps 7 and 8.

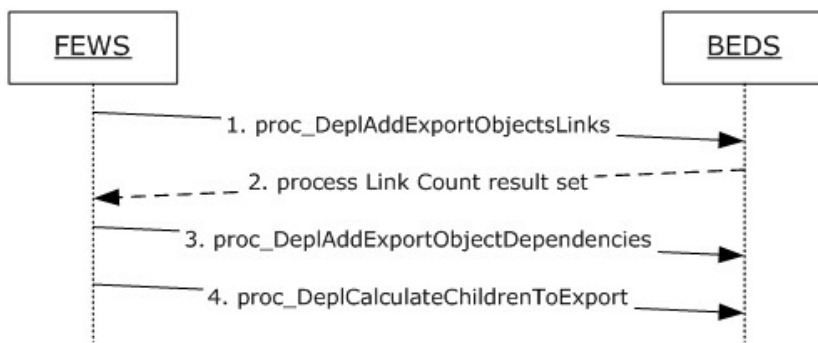


Figure 4: Link Documents Export Sequence

1. Add link documents to the table of export objects from objects that are currently in that table
2. Process the [Link Count result set](#), specified in section 3.1.4.3.1. If the Link Count result set returns one row, and {LinkCount} = 0, stop this sequence. Otherwise, continue.
3. Add additional dependency objects because new objects have been added by step 1.
4. Calculate child objects to be added to the table of export objects if the application has specified that child objects need to be included.
5. Repeat Steps 1 through 4.

3.2.4.4 Unused Web Parts Removal Sequence

To avoid dealing with duplicate web parts, the web parts for each document that is imported are stored in a temporary table so that the duplicate web parts can be removed. These web parts need to be removed because they can cause multiple web parts to be displayed.



Figure 5: Process used to remove unused Web parts

1. Create the [#WebParts Table](#), specified in section [2.2.7.4](#).
2. While importing the document, add the web parts referenced by this document to the #WebParts Table.
3. If the identifier of the web part associated with the document is not contained in the #WebParts Table, delete any rows representing that web part in the [Links Table](#), the [WebParts Table](#) and [WebPartList Table](#), sections [2.2.7.1](#), [2.2.7.2](#) and [2.2.7.3](#).

4. Clean up all the rows in the #WebParts Table.
5. Repeat step 2, 3 and 4 for every document that is imported.

3.2.5 Timer Events

None.

3.2.6 Other Local Events

None.

4 Protocol Examples

4.1 Export a List

This example describes communication between the protocol client ("client") and the server when exporting a list, including all its content from a Site. The list URL is <http://server/subweb/MyList>, which contains one item in it. The export operation consists of the following steps.

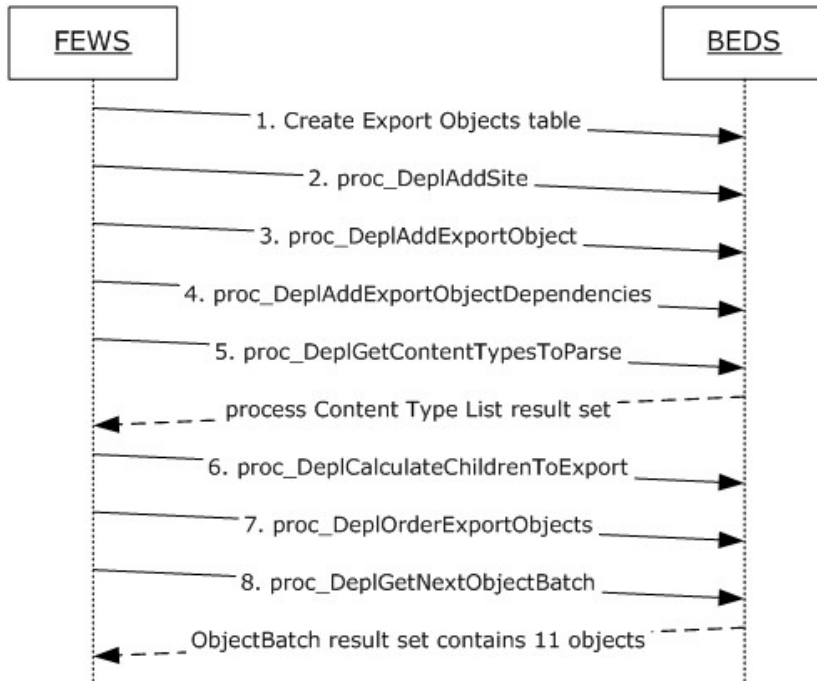


Figure 6: Process used to export a list (Part 1)

1. Create the table of export objects.
2. Specify the site collection that contains the list to be exported. [proc_DeplAddSite](#), specified in section 3.1.4.5, is called with @SiteId = '54F720B1-EC52-44CB-B347-6747DA861CBC'.
3. Add the list object to the table of export objects by calling [proc_DeplAddExportObject](#), specified in section 3.1.4.1, with the following parameters:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@Id	D825D4D3-1352-49BB-A498-8DC725D7458F

Parameter Name	Parameter Value
@Url	Lists/MyList
@Type	3
@IncludeDescendants	2
@IsMajorFileOnly	0
@IsLink	0
@IsSelected	1

- Add objects to the table of export objects which are needed in order for the "MyList" list to function properly. Call [proc_DeplAddExportObjectDependencies](#), specified in section 3.1.4.2, with the following parameters:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@IsMajorFileOnly	0
@IsLink	0

- Retrieve the list of Content Types to be exported. Call [proc_DeplGetContentTypesToParse](#), section 3.1.4.19, with the following parameter:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC

Parameter Name	Parameter Value
@LinksOnly	0

In this case, the result set does not contain any rows. Therefore, no additional objects need to be added to the table of export objects.

Add child objects to the "MyList" list, because in step 3 the @IncludeDescendants parameter specified was 2.

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@IsMajorFileOnly	0
@IsLink	0
@IncludeUserInfo	0

1. Order the objects in table of export objects to facilitate the client to process these objects in the most efficient way. The exact sorting order is implementation specific.
2. Call [proc_DeplGetNextObjectBatch](#), specified in section 3.1.4.32, with @LastOrdinal = 0, to get the first batch of objects to export. The result set returned contains 11 rows, as shown in the following table. Data in the EventTime, ChangeLogId, and ContentTypeId columns are NULL. Data in the IsDeleted, IsSiteRename and IsProvsioned columns are 0. These columns are omitted from the following table.

Id	Type	ParentId	ParentWeb Id	{FullUrl}	Ordinal	{ParentWebUrl}
54F720B1-EC52-44CB-B347-6747DA861CBC	0	NULL	NULL	NULL	1	NULL

Id	Type	ParentId	ParentWeb Id	{FullUrl}	Ordinal	{ParentWebUrl}
F78F95EA-59FB-43A6-860A-8F2F34C06F74	2	36583090-D164-418C-A626-689B83092AF1	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList	2	/subweb
09FE3453-98C9-4A91-B652-F9CB6E841B0B	2	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/Announcement	3	/subweb
5E6B556B-68F1-488F-9B7E-839A3ED7E5F2	2	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/Attachments	4	/subweb
4905FA83-DEB9-4749-BE22-5E872CCF0521	5	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/AllItems.aspx	5	/subweb
457C7B49-7817-4232-B5AB-85CEB95054C5	5	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/DispForm.aspx	6	/subweb
89297112-F7FF-4E36-A472-424640A77CFC	5	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/EditForm.aspx	7	/subweb
0AEBBC3CB-97CF-4EA0-98E1-D73DBC02F66A	5	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/NewForm.aspx	8	/subweb
D825D4D3-1352-49BB-A498-8DC725D7458F	3	30D0C9FD-659E-4882-9C46-6CB46ABB417B	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList	9	/subweb
D2DB5C42-1FB1-4B47-BE2D-85FC7B0D33AC	7	F78F95EA-59FB-43A6-860A-8F2F34C06F74	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/1_.000	10	/subweb

Id	Type	ParentId	ParentWeb Id	{FullUrl}	Ordinal	{ParentWebUrl}
6F7A8954-EC20-4861-864A-A634BCA5028D	4	D825D4D3-1352-49BB-A498-8DC725D7458F	30D0C9FD-659E-4882-9C46-6CB46ABB417B	/subweb/Lists/MyList/1_.000	11	/subweb

What's shown in the result set is an object representing a site collection, followed by three folder objects, four file objects, one list object, one document library file object and one list item.

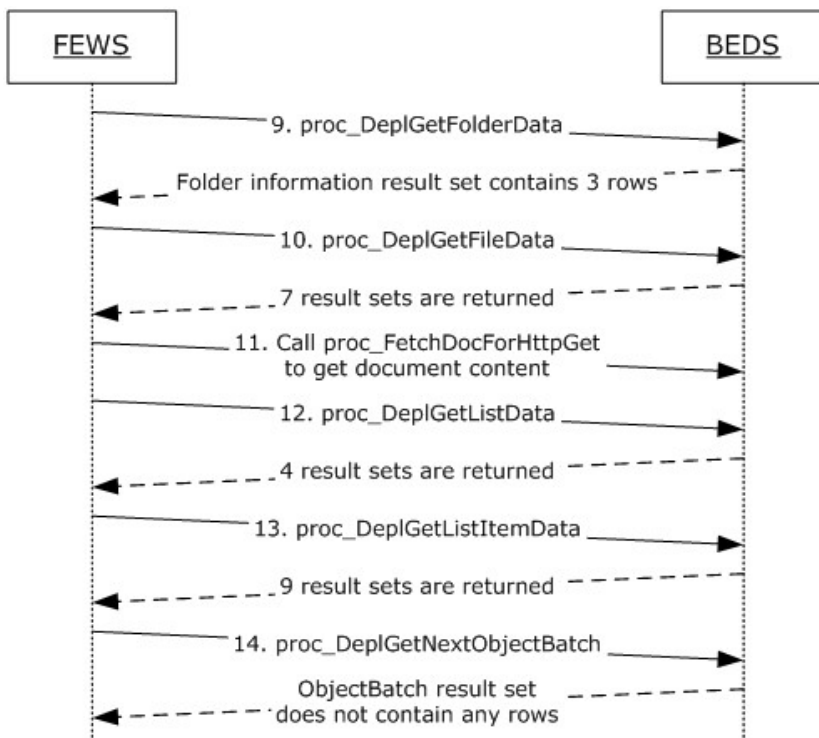


Figure 7: Process used to export a list (Part 2)

- Get additional metadata of the 3 Folder objects by calling [proc_DeplGetFolderData](#), specified in section 3.1.4.23, with the following parameters:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@ LastOrdinal	0

Parameter Name	Parameter Value
@VersionSetting	4

The result set contains three rows. The first one is listed in the following table:

Column Name	Description
Id	F78F95EA-59FB-43A6-860A-8F2F34C06F74
ExportObjectUrl	subweb/Lists/MyList
Ordinal	2
ParentWebId	30D0C9FD-659E-4882-9C46-6CB46ABB417B
LeafName	MyList
ListId	D825D4D3-1352-49BB-A498-8DC725D7458F
DocLibRowId	NULL
WelcomePageUrl	NULL
WelcomePageParameters	NULL
IsWebRootFolder	0

Column Name	Description
Acl	0xF3FE0000010000000000000000300000003000000FFFFFFFFFFFFF7F0400000061104308B000000005000000EF12433CB0010000
MetaInfo	NULL
TimeCreated	2008-03-03 18:44:43.000
TimeLastModified	2008-03-03 18:49:33.000
ProgId	NULL

- Get metadata of the next batch file objects by calling [proc_DeplGetFileData](#), specified in section 3.1.4.21, with the following parameters:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@ LastOrdinal	0
@VersionSetting	4

proc_DeplGetFileData returns 7 result sets:

[File Information result set](#), specified in section 3.1.4.22.1, which returns one row per file containing meta information of the file. In this sample, five rows will be returned because there are four file objects and 1 document library File object. The first row is listed in the following table:

Column Name	Description
Id	4905FA83-DEB9-4749-BE22-5E872CCF0521

Column Name	Description
ExportObjectUrl	subweb/Lists/MyList/AllItems.aspx
Ordinal	5
WebId	30D0C9FD-659E-4882-9C46-6CB46ABB417B
ListId	D825D4D3-1352-49BB-A498-8DC725D7458F
ParentId	F78F95EA-59FB-43A6-860A-8F2F34C06F74
ScopeId	6BE9822E-5AC6-41DD-940D-BF058FFA5894
DocLibRowId	NULL
MetaInfo	NULL
UIVersion	512
UIVersionString	1.0
IsGhosted	1
TimeCreated	2008-03-03 18:44:43.000
TimeLastModified	2008-03-03 18:44:43.000
DirName	subweb/Lists/MyList
LeafName	AllItems.aspx
SetupPath	pages\viewpage.aspx
SetupPathUser	REDMOND\user
SetupPathVersion	4
UnVersionedMetaInfo	NULL
CheckinComment	NULL
AuditFlags	NULL
InheritAuditFlags	NULL
Level	1
HasStream	0
Size	2661
Acl	0xF3FE0000010000000000000000300000003000000FFFFFFFFFFFFFFFF7F0400000061104308B

Column Name	Description
	000000005000000EF12433CB0010000

- [Latest File Versions result set](#), specified in section 3.1.4.22.2, which contains five rows representing the last major version for each of the five files. All these files contain one and only one version in this example. The first row in the result set is the following.

Column Name	Description
Id	4905FA83-DEB9-4749-BE22-5E872CCF0521
UIVersion	512
TimeCreated	2008-03-03 18:44:43.000
TimeLastModified	2008-03-03 18:44:43.000
DocFlags	268
MetaInfo	NULL
CheckinComment	NULL
Level	1
SetupPath	pages\viewpage.aspx
SetupPathUser	REDMOND\user
SetupPathVersion	4
HasStream	0
ListId	D825D4D3-1352-49BB-A498-8DC725D7458F
Size	2661

- [Previous File Versions result set](#), specified in section 3.1.4.22.3, which will return one row per old version of the files given that the @VersionSettings parameter is 4. In this example, the four files have no old versions. Therefore this result set is empty.
- [File Web Part result set](#), specified in section 3.1.4.22.4, which has one row for each Web Part reference in the files returned. In this example, there are five files in total. Four of the five files contain exactly one Web Part. As a result, four rows are returned in this result set. The first one is shown as following.

Column Name	Description
tp_Id	FD655044-665A-4468-BF7D-5CD1B41E1A3A
tp_ListID	D825D4D3-1352-49BB-A498-8DC725D7458F
tp_Type	0
tp_Flags	25165825

Column Name	Description
tp_Hidden	0
tp_Threaded	0
tp_FPModified	0
tp_ReadOnly	0
tp_Scope	[Empty String]
tp_RecurrenceRowset	0
tp_ModerationType	[Empty String]
tp_Personal	0
tp_Ordered	0
tp_DisplayName	All Items
tp_ContentTypeId	0x
tp_PageUrl	/subweb/Lists/MyList/AllItems.aspx
tp_BaseViewId	1
tp_View	NULL
tp_Level	1
tp_IsDefault	0
tp_ZoneID	Main
tp_IsIncluded	1
tp_PartOrder	1
tp_FrameState	0
tp_Version	1
tp_WebPartTypeId	FD9424E7-E654-37B5-DA14-A3AD6E18C6AE
tp_Assembly	NULL
tp_Class	NULL
tp_SolutionId	NULL

Column Name	Description
tp_AllUsersProperties	NULL
tp_PerUserProperties	NULL
tp_UserID	NULL
tp_Source	NULL
tp_CreationTime	1900-01-01 00:00:00.000
DocId	4905FA83-DEB9-4749-BE22-5E872CCF0521
tp_ListRootFolderUrl	/subweb/Lists/MyList

- [Web Part Personalization result set](#), specified in section 3.1.4.22.5. The web parts referenced in these files do not have any personalization in this example. This result set does not contain any rows.
- [File Links result set](#), specified in section 3.1.4.22.6. These files do not contain any hyperlinks to other documents within the same site collection. This result set does not contain any rows.
- [File Web Part Versions result set](#), specified in section 3.1.4.22.7. This result set does not contain any rows. which will return one row per web part per old version of the files given that the @VersionSettings parameter is 4. In this example, the four files have no old versions. Therefore this result set is empty
- Call proc_FetchDocForHttpGet, specified in [\[MS-WSSFO2\]](#) section 3.1.5.19, to get the content of the files. In the previous step, only the file metadata was collected, but not the file stream. To get the file with export ordinal number 5, this sproc is called with the following parameters.

Parameter Name	Parameter Value
@DocSiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@DocDirName	subweb/Lists/MyList
@DocLeafName	AllItems.aspx
@LooksLikeAttachmentFile	0
@IfModifiedSince	Dec 30 1899 12:00:00:000AM

Parameter Name	Parameter Value
@FetchType	0
@ValidationType	0
@ClientVersion	NULL
@ClientId	NULL
@PageView	NULL
@FetchBuildDependencySet	0
@SystemID	0x0105000000000000515000000A065CF7E784B9B5FE77C87704AB10000
@CurrentVirusVendorID	NULL
@PrefetchListScope	1
@ChunkSize	5242880
@DGCacheVersion	0
@MaxCheckinLevel	1

Parameter Name	Parameter Value
@HonorLevel	1
@CurrentFolderUrl	NULL
@ThresholdRowCount	5000

Repeat this three more times with slightly different parameters to get the streams of the other three files.

Call [proc_DeplGetListData](#), specified in section 3.1.4.26, to get the meta info of the list object. The stored procedure is called with the following parameters.

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@LastOrdinal	0
@IsIncremental	0

This stored procedure returns four result sets:

[List Information result set](#), specified in section 3.1.4.26.1, which contains only one row because there is only 1 list to be exported. The row contains the following:

Column Name	Description
Id	D825D4D3-1352-49BB-A498-8DC725D7458F
ExportObjectUrl	subweb/Lists/MyList
Ordinal	9
tp_Title	MyList
tp_Descr	

Column Name	Description
iption	
tp_Modified	2008-03-03 18:49:33.000
tp_Created	2008-03-03 18:44:43.000
tp_Version	0
tp_Base Type	0
tp_FeatureId	00BFEA71-D1CE-42DE-9C63-A44004CE0104
tp_ServerTemplate	104
tp_RootFolder	F78F95EA-59FB-43A6-860A-8F2F34C06F74
tp_Template	NULL
tp_Read Security	1
tp_Write Security	1
tp_Fields	<p>0xA8A930310C0000001E010000789C6D8EC10AC23010447FA5E403344DBD08EAC160C1831EA4F710CC8A0B49B6C445D2BFB7C14B29612FBBECBC9969771B394FB7575D590E3D82770F7835771BE028344586C8C334C2D589ED69FD1F903D884693FFDFF16BD3F36D535BD19A1B39489691A2A61066DBCF9264C85CC37AF460B2944A9A52A312A62AD499DCB476AFE92E79C404CB22CE323006285D7EC6875DA4</p> <p>Which is a compressed version of:</p> <pre>14.0.0.3923.0.0<FieldRef Name="ContentTypeId" /><FieldRef Name="Title" ColName="nvarchar1" /><FieldRef Name="ModerationComments" ColName="ntext1" /><FieldRef Name="File_x0020_Type" ColName="nvarchar2" /><FieldRef Name="Body" ColName="ntext2" /><FieldRef Name="Expires" ColName="datetime1" /></pre> <p>The XML conforms to the FieldDefinitionDatabaseWithVersion complex type, as defined by [MS-WSSFO2] section 2.2.9.3.5.</p>
tp_Direction	0
tp_Flags	536875008
tp_ThumbnailSize	NULL

Column Name	Description
tp_WebImageWidth	NULL
tp_WebImageHeight	NULL
tp_ImageUrl	/_layouts/images/itann.gif
tp_Author	1
tp_EventSinkAssembly	NULL
tp_EventSinkClasses	NULL
tp_EventSinkData	NULL
tp_EmailInsertsFolder	NULL
tp_EmailAlias	NULL
tp_DocTemplateUrl	NULL
tp_ContentTypes	0xA8A930310C000000E5000000789C758E4D0E82301844AF427A01A6BF94A492D096266E5C182E40F4D38D144330D1DB8B3B5CB09D9779332E4C79A1BCF49F279DE9561CE381E10D0E05F0C4656D830CDA1BCF95B66D1B0220450D9B62D7B1C6A5E971A5B9E887F94ECB6918E9C0DA9CA757BED0B85A59D9B8F27FA1713B8B02803075AC749594975D2594B5D0D1ACB94CDCA760F4CFB7A96FDEEE1181957C018D3742E8 Which is a compressed version of: <ContentTypeRef ID="0x0104001F1398C3C5B6B1458AACC0032908FDEE"><FolderTargetName="Announcement" /></ContentTypeRef><ContentTypeRef ID="0x012000269D757F4B3E7248805D60003F1BFC65" /><ContentType ID="0x0104" /><ContentType ID="0x0120" />
Acl	0xF3FE000001000000000000003000000030000000FFFFFFFFFFFF7F0400000061104308B000000005000000EF12433CB0010000
tp_MaxMajorVersionCount	NULL
tp_MaxMajorWithMinorVersionCount	NULL

Column Name	Description
t	
tp_SendToLocation	NULL
tp_NoThrottleListOperations	0
{TitleResource}	\$Resources:core,announceList;
{DescriptionResource}	\$Resources:onetid10;
DataSource	NULL
ValidationFormula	NULL
ValidationMessage	NULL

- [List Web Parts result set](#), specified in section 3.1.4.26.2, which contains all Web Parts defined on the list, one per each row. In this sample, four Web Parts will be returned. The first row is listed as the following:

Column Name	Description
tp_ID	FD655044-665A-4468-BF7D-5CD1B41E1A3A
tp_ListID	D825D4D3-1352-49BB-A498-8DC725D7458F
tp_Type	0
tp_Flags	25165825
tp_Hidden	0
tp_Threaded	0
tp_FPMmodified	0
tp_ReadOnly	0
tp_Scope	[Empty String]
tp_RecurrenceRowset	0
tp_ModerationType	[Empty String]

Column Name	Description
tp_Personal	0
tp_Ordered	0
tp_DisplayName	All Items
tp_ContentTypeId	0x
tp_PageUrl	/subweb/Lists/MyList/AllItems.aspx
tp_BaseViewId	1
tp_View	NULL
tp_Level	1
tp_IsDefault	0
tp_ZoneID	Main
tp_IsIncluded	0
tp_PartOrder	1
tp_FrameState	0
Id	4905FA83-DEB9-4749-BE22-5E872CCF0521
OnQuickLaunch	1
tp_MobileView	1
tp_MobileDefaultView	1
tp_ContentTypeDefault	0
tp_LockWeb	0
tp_FailIfEmpty	0
tp_FreeForm	0
tp_FileDialog	0
tp_AggregationView	0
tp_IncludeRootFolder	0
tp_IncludeVersions	0

- [Event Receivers result set](#), which contains 0 rows because this list does not have any event receiver associated with it.
- [Deleted Fields result set](#), specified in section 3.1.4.26.4, is not returned because this is not an Incremental Export Operation.
- [Deleted Views result set](#), specified in section 3.1.4.26.5, is not returned because this is not an Incremental Export Operation. .

- [Deleted Content Types result set](#), specified in section 3.1.4.26.6, is not returned because this is not an Incremental Export Operation.
- [Null List result set](#), specified in section 3.1.4.26.7, which contains 1 row.

Column Name	Description
ListId	NULL
FieldId	NULL

- [Null List result set two](#), specified in section 3.1.4.26.8, which contains 1 row.

Column Name	Description
ListId	NULL
ViewId	NULL

- [Null List result set three](#), specified in section 3.1.4.26.9, which contains 1 row.

Column Name	Description
ListId	NULL
{ContentTypeId}	NULL

- [List User Custom Actions result set](#), specified in section 3.1.4.26.10, which contains 0 rows because this list does not have any custom actions associated with it.
- [List Unique Resources result set](#), specified in section 3.1.4.26.11, which contains 0 rows because the list does not have a unique resource associated with it.
- [List All Resources result set](#), specified in section 3.1.4.26.12, which contains 0 rows because the list does not have any resources associated with it.
- Call [proc_DeplGetListItemData](#), specified in section 3.1.4.30, to retrieve the metadata of the list items in the "MyList" list. The stored procedure is called with the following parameters:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@ LastOrdinal	0
@ VersionSetting	4

Parameter Name	Parameter Value
@ListId	D825D4D3-1352-49BB-A498-8DC725D7458F
@Columns	nvarchar1,ntext1,nvarchar2,ntext2,datetime1
@IsSolutionGallery	0

This stored procedure returns ten result sets.

[List Item Data result set](#), specified in section 3.1.4.30.1, which contains meta data of the list items, one per row. The "MyList" list contains only 1 list item. Therefore, this result set contains only 1 row, as following:

Column Name	Description
Id	6F7A8954-EC20-4861-864A-A634BCA5028D
ExportObjectUrl	subweb/Lists/MyList/1_.000
Ordinal	11
ParentId	D825D4D3-1352-49BB-A498-8DC725D7458F
DirName	subweb/Lists/MyList
LeafName	1_.000
IntId	1
tp_RowOrdinal	0
tp_UIVersion	512
tp_Author	1
tp_Editor	1
tp_Modified	2008-03-03 18:49:33.000
tp_Created	2008-03-03 18:49:33.000
tp_Ordering	NULL
tp_HasAttachment	0
tp_ModerationStatus	0
tp_IsCurrent	1

Column Name	Description
tp_ItemOrder	100.0
tp_InstanceID	NULL
tp_CopySource	NULL
tp_HasCopyDestinations	NULL
tp_AuditFlags	NULL
tp_InheritAuditFlags	NULL
tp_ContentType	Announcement
tp_ContentTypeId	0x0104004475039B7ED69249ADDE60E6DAC4CE4A
tp_ThreadIndex	NULL
tp_UIVersionString	1.0
Id	D2DB5C42-1FB1-4B47-BE2D-85FC7B0D33AC
Type	0
FolderId	F78F95EA-59FB-43A6-860A-8F2F34C06F74
ProgId	NULL
Acl	0xF3FE00000100000000000000300000003000000FFFFFFFFFFFFFFFF7F0400000061104308B000000005000000EF12433CB0010000
UserLoginName	NULL
GroupName	NULL
tp_Level	1

- [Field Data result set](#), specified in section 3.1.4.30.2, which contains the field data for the current version of the list item. In this example, the result set contains 1 row, as the following:

Column Name	Description
Id	6F7A8954-EC20-4861-864A-A634BCA5028D
IntId	1
Id	D2DB5C42-1FB1-4B47-BE2D-85FC7B0D33AC
tp_UIVersion	512
tp_UIVersionString	1.0
tp_RowOrdinal	0

Column Name	Description
nvarchar1	A new announcement!
ntext1	NULL
nvarchar2	NULL
ntext2	<div class=ExternalClass54E2F257DBEA44C0B29B6FC9D1E6F200><div></div></div>
datetime1	NULL
tp_Level	1

- [Multi Lookup result set](#), specified in section 3.1.4.30.3, does not contain any rows because this list does not have any lookup fields to another list.
- [List Item Versions result set](#), specified in section 3.1.4.30.4, contains 1 row because the list item in this list has only 1 version.

Column Name	Description
Id	6F7A8954-EC20-4861-864A-A634BCA5028D
ExportObjectUrl	subweb/Lists/MyList/1_.000
Ordinal	11
ParentId	D825D4D3-1352-49BB-A498-8DC725D7458F
DirName	subweb/Lists/MyList
LeafName	1_.000
IntId	1
tp_RowOrdinal	0
tp_UIVersion	512
tp_Author	1
tp_Editor	1
tp_Modified	2008-03-03 18:49:33.000
tp_Created	2008-03-03 18:49:33.000
tp_Ordering	NULL
tp_HasAttachment	0
tp_ModerationStatus	0
tp_IsCurrent	1
tp_ItemOrder	100.0
tp_InstanceID	NULL

Column Name	Description
tp_CopySource	NULL
tp_HasCopyDestinations	NULL
tp_AuditFlags	NULL
tp_InheritAuditFlags	NULL
tp_ContentType	Announcement
tp_ContentTypeId	0x0104004475039B7ED69249ADDE60E6DAC4CE4A
{tp_ThreadIndex}	NULL
tp_UIVersionString	1.0
{Id}	NULL
{Type}	NULL
{Acl}	NULL
{UserLoginName}	NULL
{GroupName}	NULL
tp_Level	1

- [Versions Fields Data result set](#), specified in section 3.1.4.30.5, contains 1 row because the list item in this list has only 1 version.

Column Name	Description
Id	6F7A8954-EC20-4861-864A-A634BCA5028D
IntId	1
DocId	D2DB5C42-1FB1-4B47-BE2D-85FC7B0D33AC
tp_UIVersion	512
tp_UIVersionString	1.0
tp_RowOrdinal	0
nvarchar1	A new announcement!
ntext1	NULL
nvarchar2	NULL
ntext2	<div class=ExternalClass54E2F257DBEA44C0B29B6FC9D1E6F200><div></div></div>
datetime1	NULL
tp_Level	1

- [Versions Multi Lookup result set](#), specified by section 3.1.4.30.6, does not contain any rows, because the list does not have any look up fields to another list.
- [List Item Links result set](#), specified by section 3.1.4.30.7, does not contain any rows because the list item in this list does not contain any links.
- [Attachments result set](#), specified in section 3.1.4.30.8, does not contain any rows because the list item in this list does not have any attachments.
- [List Item Event Receivers result set](#), specified in section 3.1.4.30.10, does not contain any rows because there are no event receivers associated with the list item in this list.
- [List Item Solutions result set](#), specified in section 3.1.4.30.11, does not contain any rows because there are no custom solutions associated with the list item in this list.
- . Call `proc_DeplGetNextObjectBatch`, specified in section 3.1.4.33, again to get the next batch, with parameter `@LastOrdinal = 11`. The result set does not contain any rows because there are no more data objects that need to be exported.

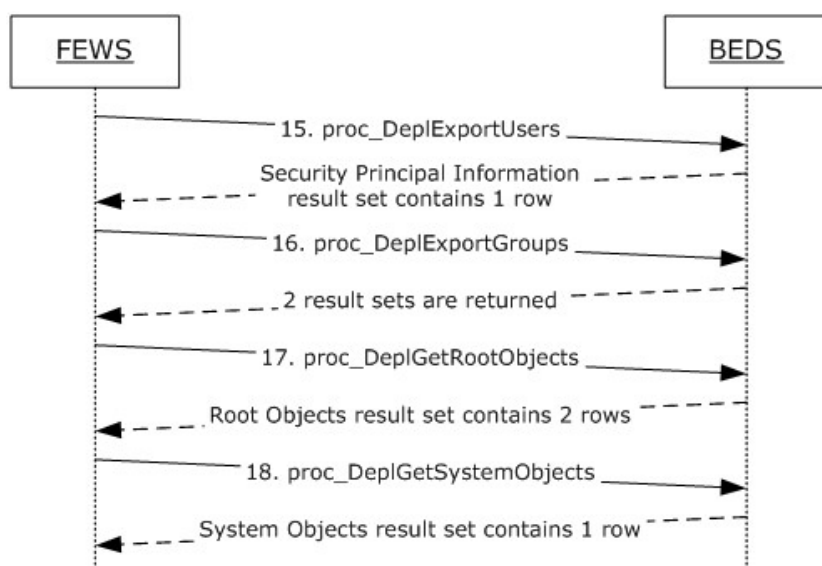


Figure 8: Process used to export a list (Part 3)

- Export security principals. Call [proc_DeplExportUsers](#), specified in section 3.1.4.14, with the following parameters:

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@UserIdCur	-1

The [Security Principal Information result set](#), specified in section 3.1.4.14.1, contains 1 row:

Column Name	Description
tp_SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
tp_Id	1
tp_Title	User
tp_Login	Redmond\user
tp_Email	user@exchange.microsoft.com
tp_Notes	[Empty String]
tp_DomainGroup	0
tp_SiteAdmin	1
tp_SystemId	0x010500000000000515000000A065CF7E784B9B5FE77C87704AB10000
tp_Deleted	0
tp_Mobile	NULL
tp_Flags	0

- Export security groups. Call [proc_DeplExportGroups](#), specified in section 3.1.4.8, with the following parameters

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@GroupIdCur	-1

- [Security Group Information result set](#), specified in section 3.1.4.8.1, contains 1 row as the following:

Column Name	Description
ID	3
Title	Team Site Owners
Description	Use this group to give people full control permissions to the SharePoint site: Team Site
Owner	3
OwnerIsUser	0
RequestEmail	user@ exchange.microsoft.com

Column Name	Description
Flags	1

- [Security Group Memberships result set](#), specified in section 3.1.4.8.2, contains 1 row as the following:

Column Name	Description
MemberId	1

- Retrieve information about root level objects by calling [proc_DeplGetRootObjects](#), specified in section 3.1.4.37. The [Root Objects result set](#), specified in section 3.1.4.37.1, contains two rows. The first row is shown as the following:

Column Name	Description
Id	F78F95EA-59FB-43A6-860A-8F2F34C06F74
Type	2
ParentId	36583090-D164-418C-A626-689B83092AF1
FullUrl	subweb
FullUrl	subweb/Lists/MyList
IsDependency	0
IsSelected	0

- Retrieve information about migration system objects by calling [proc_DeplGetSystemObjects](#), specified in section 3.1.4.38, with @SiteId = '54F720B1-EC52-44CB-B347-6747DA861CBC'. The result set returned one row:

Column Name	Description
Id	F0679A07-C519-4570-A7D9-FF6343187332
Type	3
{Url}	/_catalogs/users

- The client now has collected enough information about the objects to be exported. It serializes this information into the XML file format as described in Deployment Package.

4.2 Import a List

This example shows the communication between the client and the server when importing a Deployment Package which contains one list named "MyList", and one list item inside it. The Deployment Package also contains several other data objects that are necessary for the list to function properly. Such a Deployment Package could be created by using this protocol with steps outlined in the previous example.

The import operation will use a number of stored procedures from outside of this protocol. The definition of those stored procedures can be found in [\[MS-WSSFO2\]](#) and [\[MS-WSSDLIM2\]](#).

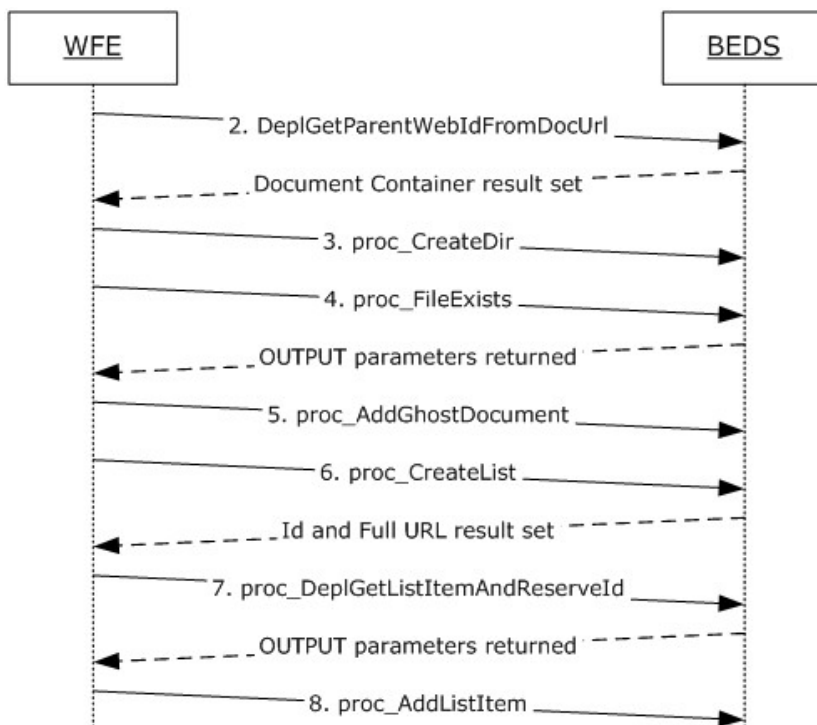


Figure 9: Importing a list

- Prepare the data to be imported. If the data was from a XML package such as a Deployment package, the client is required to parse it and convert the XML file into data that are usable by the stored procedures. In this example, the client has the following data to import. The data will be imported into a Site at <http://server2/sites/import>.

Date Type	Description
List	Name = "My List"
List Item	Title = "A new announcement!"
Folder	Lists/MyList, List support folder
Folder	Lists/MyList/Announcement, List support folder

Date Type	Description
Folder	Lists/MyList/Attachments, List support folder
File	Lists/MyList/AllItems.aspx, List support file
File	Lists/MyList/EditForm.aspx, List support file
File	Lists/MyList/DispForm.aspx, List support file
File	Lists/MyList/NewForm.aspx, List support file

- Call [proc_DeplGetParentWebIdFromDocUrl](#), specified in section 3.1.4.36, to obtain the site and list information of a folder 'Lists/MyList'. The following parameters are used.

Parameter Name	Parameter Value
@SiteId	54F720B1-EC52-44CB-B347-6747DA861CBC
@DocUrl	Sites/Import

The [Location result set](#), specified in section 3.1.4.36.1, returned is the following, which provides the identifier of the site where data are being imported to. Many subsequent stored procedure calls will use this information.

Column Name	Description
WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
ListId	NULL

- Call `proc_CreateDir`, specified in [\[MS-WSSFO2\]](#) section 3.1.5.9, to import the folder "Lists/MyList". The parameters are the following:

Parameter Name	Parameter Value
@DirSiteId	94CC3683-3875-43D0-8DC2-9F82A7D43EB7
@DirWebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@DirDirName	Sites/Import
@DirLeafName	MyList
@DirLevel	1
@AddMinorVersion	0
@DocFlags	0
@CreateDirFlags	24
@UserId	1

This stored procedure returns 0 when it creates the folder successfully.

Repeat step 2 and 3 until all folders are imported.

Call [proc_FileExists](#), specified in section 3.1.4.42, to check if a file "/importweb/Lists/MyList/AllItems.aspx" already exists before importing it. The parameters are the following:

Parameter Name	Parameter Value
@SiteId	94CC3683-3875-43D0-8DC2-9F82A7D43EB7

Parameter Name	Parameter Value
@WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@DocId	NULL
@Url	sites/import/MyList/AllItems.aspx

The stored procedure returns 0 when it finishes execution successfully. The output parameters are returned as the following:

Parameter Name	Parameter Value
@IsDeleted	0
@DocExists	0
@DestDocId	NULL

The result indicates the file does not exist.

Call [\[MS-WSSDLIM2\]](#) section 3.1.4.5 import File "Lists/MyList/AllItems.aspx". The parameters are the following:

Parameter Name	Parameter Value
@SiteId	94CC3683-3875-43D0-8DC2-9F82A7D43EB7
@WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@DocId	1D37ECF4-D2E1-4A98-A440-4A911F4F1E68

Parameter Name	Parameter Value
@DocDirName	sites/import/MyList
@DocLeafName	AllItems.aspx
@Level	1
@UIVersion	512
@EnableMinorVersions	0
@DocSize	2661
@DocFlags	268
@OnRestore	1
@Overwrite	0
@UserId	1
@HasDeleteListItemsRight	0
@SetupPathVersion	3

Parameter Name	Parameter Value
@SetupPath	pages\viewpage.aspx
@SetupPathUser	Redmond\user
@ListId	NULL
@DoclibRowId	NULL
@fCheckQuotaAndWriteLock	0

The store procedure return 0 after the document was successfully imported.

Repeat step 4 and 5 until all files are imported.

Call **proc_CreateList**, specified in [\[MS-WSSDLIM2\]](#) section 3.1.4.19, to create the "MyList" list. The parameters are the following:

Parameter Name	Parameter Value
@SiteId	94CC3683-3875-43D0-8DC2-9F82A7D43EB7
@WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@ListId	494CFA0C-BAA8-45F1-9C7B-C8C843DC1C93
@DirName	NULL
@FolderNameBase	NULL

Parameter Name	Parameter Value
@bAlternateUrlOnCollision	1
@Title	MyList
@Version	1
@Author	1
@BaseType	0
@bCreateAttachmentsSubFolder	0
@FeatureId	00BFEA71-D1CE-42DE-9C63-A44004CE0104
@ServerTemplate	104
@DocLibTemplate	NULL
@ImageUrl	/_layouts/images/itann.gif
@ReadSecurity	1
@WriteSecurity	1
@Description	[Empty String]

Parameter Name	Parameter Value
@MajorVersionCount	NULL
@MinorVersionCount	NULL
@Fields ntext	12.0.0.6304.0.0<FieldRef Name="ContentTypeId"/><FieldRef Name="Title" ColName="nvarchar1"/><FieldRef Name="_ModerationComments" ColName="ntext1"/><FieldRef Name="File_x0020_Type" ColName="nvarchar2"/><FieldRef Name="Body" ColName="ntext2"/><FieldRef Name="Expires" ColName="datetime1"/>
@Direction	0
@Flags	545263616
@ThumbnailSize	NULL
@WebImageWidth	NULL
@WebImageHeight	NULL
@bParentFolderChecked	0
@OnRestore	0
@EventSinkAssembly	NULL

Parameter Name	Parameter Value
@EventSinkClass	NULL
@EventSinkData	NULL
@ContentTypes	<ContentTypeRef ID="0x0104004475039B7ED69249ADDE60E6DAC4CE4A"><Folder TargetName="Announcement"/></ContentTypeRef><ContentTypeRef ID="0x012000B599492C8570004DACBD86A4B77EAEC9"/><ContentType ID="0x0104"/><ContentType ID="0x0120"/>
@RootFolderId	8570D03E-2C7D-4863-BABA-B8DC2F01A6D6

Parameter Name	Parameter Value
@SiteId	94CC3683-3875-43D0-8DC2-9F82A7D43EB7
@WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@ListID	494CFA0C-BAA8-45F1-9C7B-C8C843DC1C93
@RowOrdinal	0
@ItemDocType	0
@RetainId	689BE3B3-ABC4-4B81-9F44-FADAE3FDBF02
@RetainObjectIdentity	1
@ItemId	1
@ItemDirName	sites/import/MyList
@ItemLeafName	NULL
@UserID	1
@TimeNow	20080305 00:02:48
@ServerTemplate	104
@Basetype	0
@tp_GUID	4EBEAC61-BDFF-47A5-93B2-52B3F608613C

Parameter Name	Parameter Value
@ListId	494CFA0C-BAA8-45F1-9C7B-C8C843DC1C93
@DocId	D2DB5C42-1FB1-4B47-BE2D-85FC7B0D33AC
@WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@OriginalListItemId	1

The stored procedure returns 0 upon completion. It also returns the output parameters as the following:

Parameter Name	Parameter Value
@DocId	D2DB5C42-1FB1-4B47-BE2D-85FC7B0D33AC
@IsDeleted	0
@ListItemId	1
@IsIdTaken	0
@ListItemUrl	NULL

- Call [\[MS-WSSFO2\]](#) section 3.1.5.4 to import the list items. The parameters are the following:

Parameter Name	Parameter Value
@SiteId	94CC3683-3875-43D0-8DC2-9F82A7D43EB7
@WebId	8F7BFFAC-5FDA-4B90-B130-DF1CBF13252A
@ListID	494CFA0C-BAA8-45F1-9C7B-C8C843DC1C93

Parameter Name	Parameter Value
@RowOrdinal	0
@ItemDocType	0
@RetainId	689BE3B3-ABC4-4B81-9F44-FADAE3FDBF02
@RetainObjectIdentity	1
@UserID	1
@TimeNow	'20080305 00:02:48
@ServerTemplate	104
@Basetype	0
@Level	1
@tp_GUID	4EBEAC61-BDFF-47A5-93B2-52B3F608613C,
@OnRestore	1,
@AddNamespace	1,
@CheckDiskQuota	1,
@tp_ContentTypeId	0x0104004475039B7ED69249ADDE60E6DAC4CE4A
@nvarchar1	A new announcement!
@ntext1	NULL
@nvarchar2	NULL
@ntext2	<div class=ExternalClass54E2F257DBEA44C0B29B6FC9D1E6F200><div></div></div>
@datetime1	NULL
@tp_ContentType	Announcement
@tp_ModerationStatus	0
@Size	212
@ExtraItemSize	0
@ItemName	A new announcement!
@acl	0xF3FE000001000000000000000100000001000000FFFFFFFFFFFFFFFF7F

This stored procedure returns 0 after the list item is successfully created.

4.3 Remove Unused Web Parts After Importing a File

This example shows queries that are used to directly update the [Links Table](#), the [WebParts Table](#), and the [WebPartLists Table](#), sections [2.2.7.1](#), [2.2.7.2](#), and [2.2.7.3](#) to find and remove unused web parts after a file is imported. The steps match the ones shown in section [3.2.4.4](#).

1. Create the [#WebParts Table](#)

```
CREATE TABLE #WebParts (WebPartId uniqueidentifier NOT NULL PRIMARY KEY)
```

2. While importing the file, add the web parts referenced by this file to the #WebParts Table

```
INSERT INTO #WebParts VALUES (@WebPartId) 'BA8CB0D4-CD11-43F7-823E-0394DFFAF891'
```

3. Delete any rows in the Links Table, the WebParts Table and WebPartLists Table, section [2.2.7.1](#), [2.2.7.2](#), and [2.2.7.3](#), if the web part represented by that row is associated with the file being imported, but the identifier for the Web Part is not contained in the #WebParts Table.

```
DELETE Links FROM
  (SELECT L2.WebPartId FROM Links AS L2 WHERE
    L2.SiteId = @SiteId AND
    L2.DocId = @DocId AND
    L2.WebPartId IS NOT NULL AND
    (NOT EXISTS
      (SELECT 1 FROM #WebParts AS TempWP WHERE
        TempWP.WebPartId = L2.WebPartId)
    )
  ) AS L1
WHERE
  Links.SiteId = @SiteId AND
  Links.DocId = @DocId AND
  Links.WebPartId IS NOT NULL AND
  Links.WebPartId = L1.WebPartId AND
  Links.Level = 1

DELETE WebPartLists FROM
  (SELECT WP2.tp_ID FROM WebParts AS WP2 WHERE
    WP2.tp_SiteId = @SiteId AND
    WP2.tp_PageUrlID = @DocId AND
    WP2.tp_UserID IS NULL AND
    (NOT EXISTS
      (SELECT 1 FROM #WebParts AS TempWP WHERE
        TempWP.WebPartId = WP2.tp_ID)
    )
  ) AS WP1
WHERE
  WebPartLists.tp_SiteId = @SiteId AND
  WebPartLists.tp_WebPartID = WP1.tp_ID AND
  WebPartLists.tp_Level = 1

DELETE WebParts FROM
  (SELECT WP2.tp_ID FROM WebParts AS WP2 WHERE
    WP2.tp_SiteId = @SiteId AND
    WP2.tp_PageUrlID = @DocId AND
    WP2.tp_UserID IS NULL AND
    (NOT EXISTS
      (SELECT 1 FROM #WebParts AS TempWP WHERE
        TempWP.WebPartId = WP2.tp_ID)
    )
  ) AS WP1
WHERE
  WebParts.tp_SiteId = @SiteId AND
```

```
WebParts.tp_ID = WP1.tp_ID AND  
WebParts.tp_Level = 1
```

Parameter Name	Parameter Value	Description
@SiteId	7537FBDF-2B82-43E7-9F16-9251CA8879FE	Identifier of the Site Collection which contains the document being imported.
@DocId	CEED281B-7684-43C4-A6B4-6A25DA1558EB	Identifier of the document that is being imported

- Clean up all the rows in the #WebParts Table

```
TRUNCATE TABLE #WebParts
```


5 Security

5.1 Security Considerations for Implementers

Interactions with SQL are susceptible to tampering and other forms of security risks. Implementers are advised to sanitize input parameters for stored procedures prior to invoking the stored procedure.

5.2 Index of Security Parameters

Security Parameter	Section
proc_DeplExportGroups	3.1.4.8
proc_DeplExportGroupX	3.1.4.9
proc_DeplExportRoleAssignments	3.1.4.10
proc_DeplExportRoleAssignmentX	3.1.4.11
proc_DeplExportRoles	3.1.4.12
proc_DeplExportRoleX	3.1.4.13
proc_DeplExportUsers	3.1.4.14
proc_DeplExportUserX	3.1.4.15

6 Appendix A: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® SharePoint® Foundation 2010
- Microsoft® SQL Server® 2005
- Microsoft® SQL Server® 2008
- Microsoft® SQL Server® 2008 R2

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

7 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

8 Index

[#WebParts table](#) 15

A

Abstract data model

[client](#) 92

[server](#) 17

[Applicability](#) 11

[Attribute groups - overview](#) 16

[Attributes - overview](#) 16

B

[Binary structures - overview](#) 14

C

[Capability negotiation](#) 11

[Change tracking](#) 139

Client

[abstract data model](#) 92

[details](#) 92

[initialization](#) 92

[local events](#) 97

[message processing](#) 92

[sequencing rules](#) 92

[timer events](#) 97

[timers](#) 92

Common data types

[overview](#) 12

[Complex types - overview](#) 15

D

Data model - abstract

[client](#) 92

[server](#) 17

Data types

[common](#) 12

[Web Part moderation simple type](#) 12

[Web Part scope simple type](#) 12

Data types - simple

[Web Part moderation](#) 12

Data types – simple

[Web Part scope](#) 12

[Deployment object type enumeration](#) 13

Details

[Client](#) 92

E

[Elements - overview](#) 16

Enumerations

[deployment object type](#) 13

Events

[local - client](#) 97

[local - server](#) 92

[timer - client](#) 97

[timer - server](#) 92

Example

[import a list](#) 122

[remove unused Web Parts after importing a file](#) 134

Examples

[export a list](#) 98

[Export a list example](#) 98

[Export sequencing rules](#) 93

F

[Fields - vendor-extensible](#) 11

Flag structures

[Security group membership](#) 12

G

[Glossary](#) 7

[Groups - overview](#) 16

I

[Implementer - security considerations](#) 137

[Import a list example](#) 122

[Incremental export sequencing rules](#) 94

[Index of security parameters](#) 137

[Informative references](#) 10

Initialization

[client](#) 92

[server](#) 17

[Introduction](#) 7

L

[Link documents export sequencing rules](#) 95

[Links table](#) 14

Local events

[client](#) 97

[server](#) 92

M

Message processing

[client](#) 92

[server](#) 17

Messages

[attribute groups](#) 16

[attributes](#) 16

[binary structures](#) 14

[common data types](#) 12

[complex types](#) 15

[elements](#) 16

[groups](#) 16

[namespaces](#) 15

[result sets](#) 14

[security group membership flag structure](#) 12

[simple types](#) 15

[transport](#) 12

[XML structures](#) 15

Methods

[proc_DeplAddExportObject](#) 17
[proc_DeplAddExportObjectDependencies](#) 19
[proc_DeplAddExportObjectLinks](#) 20
[proc_DeplAddIncrementalSearchScope](#) 21
[proc_DeplAddSite](#) 22
[proc_DeplCalculateChildrenToExport](#) 22
[proc_DeplCalculateIncrementalSearchScope](#) 23
[proc_DeplExportGroups](#) 24
[proc_DeplExportGroupX](#) 25
[proc_DeplExportRoleAssignments](#) 26
[proc_DeplExportRoleAssignmentX](#) 28
[proc_DeplExportRoles](#) 30
[proc_DeplExportRoleX](#) 31
[proc_DeplExportUsers](#) 33
[proc_DeplExportUserX](#) 34
[proc_DeplFindScopeObject](#) 35
[proc_DeplFindScopeObjectById](#) 36
[proc_DeplFixWebPartsOnListCreation](#) 37
[proc_DeplGetContentTypeData](#) 37
[proc_DeplGetContentTypesToParse](#) 38
[proc_DeplGetDocLibRootFolderUrl](#) 39
[proc_DeplGetFileData](#) 40
[proc_DeplGetFolderById](#) 51
[proc_DeplGetFolderData](#) 52
[proc_DeplGetIncrementalChanges](#) 54
[proc_DeplGetListData](#) 55
[proc_DeplGetListItemAndReserveId](#) 67
[proc_DeplGetListItemByDocId](#) 69
[proc_DeplGetListItemByUrl](#) 69
[proc_DeplGetListItemData](#) 70
[proc_DeplGetLookupItemData](#) 83
[proc_DeplGetLookupListUrl](#) 83
[proc_DeplGetNextObjectBatch](#) 84
[proc_DeplGetParentWebIdForList](#) 85
[proc_DeplGetParentWebIdFromDocId](#) 86
[proc_DeplGetParentWebIdFromDocUrl](#) 87
[proc_DeplGetRootObjects](#) 87
[proc_DeplGetSystemObjects](#) 88
[proc_DeplOrderExportObjects](#) 89
[proc_DeplReserveNextAvailableId](#) 89
[proc_DeplUpdateWebProperties](#) 90
[proc_FileExists](#) 91

N

[Namespaces](#) 15

[Normative references](#) 9

O

[Overview \(synopsis\)](#) 10

P

[Parameters - security index](#) 137

[Preconditions](#) 10

[Prerequisites](#) 10

[proc_DeplAddExportObject method](#) 17

[proc_DeplAddExportObjectDependencies method](#) 19

[proc_DeplAddExportObjectLinks method](#) 20

[proc_DeplAddIncrementalSearchScope method](#) 21

[proc_DeplAddSite method](#) 22

[proc_DeplCalculateChildrenToExport method](#) 22

[proc_DeplCalculateIncrementalSearchScope method](#) 23

[proc_DeplExportGroups method](#) 24

[proc_DeplExportGroupX method](#) 25

[proc_DeplExportRoleAssignments method](#) 26

[proc_DeplExportRoleAssignmentX method](#) 28

[proc_DeplExportRoles method](#) 30

[proc_DeplExportRoleX method](#) 31

[proc_DeplExportUsers method](#) 33

[proc_DeplExportUserX method](#) 34

[proc_DeplFindScopeObject method](#) 35

[proc_DeplFindScopeObjectById method](#) 36

[proc_DeplFixWebPartsOnListCreation method](#) 37

[proc_DeplGetContentTypeData method](#) 37

[proc_DeplGetContentTypesToParse method](#) 38

[proc_DeplGetDocLibRootFolderUrl method](#) 39

[proc_DeplGetFileData method](#) 40

[proc_DeplGetFolderById method](#) 51

[proc_DeplGetFolderData method](#) 52

[proc_DeplGetIncrementalChanges method](#) 54

[proc_DeplGetListData method](#) 55

[proc_DeplGetListItemAndReserveId method](#) 67

[proc_DeplGetListItemByDocId method](#) 69

[proc_DeplGetListItemByUrl method](#) 69

[proc_DeplGetListItemData method](#) 70

[proc_DeplGetLookupItemData method](#) 83

[proc_DeplGetLookupListUrl method](#) 83

[proc_DeplGetNextObjectBatch method](#) 84

[proc_DeplGetParentWebIdForList method](#) 85

[proc_DeplGetParentWebIdFromDocId method](#) 86

[proc_DeplGetParentWebIdFromDocUrl method](#) 87

[proc_DeplGetRootObjects method](#) 87

[proc_DeplGetSystemObjects method](#) 88

[proc_DeplOrderExportObjects method](#) 89

[proc_DeplReserveNextAvailableId method](#) 89

[proc_DeplUpdateWebProperties method](#) 90

[proc_FileExists method](#) 91

[Product behavior](#) 138

R

References

[informative](#) 10

[normative](#) 9

[Relationship to other protocols](#) 10

[Remove unused Web Parts after importing a file example](#) 134

[Result sets - overview](#) 14

S

Security

[implementer considerations](#) 137

[parameter index](#) 137

[Security group membership flag structure](#) 12

Sequencing rules

[client](#) 92

[export](#) 93

[incremental export](#) 94

[link documents export](#) 95

- [server](#) 17
- [unused Web Parts removal](#) 96
- Server
 - [abstract data model](#) 17
 - [initialization](#) 17
 - [local events](#) 92
 - [message processing](#) 17
 - [proc_DeplAddExportObject method](#) 17
 - [proc_DeplAddExportObjectDependencies method](#) 19
 - [proc_DeplAddExportObjectLinks method](#) 20
 - [proc_DeplAddIncrementalSearchScope method](#) 21
 - [proc_DeplAddSite method](#) 22
 - [proc_DeplCalculateChildrenToExport method](#) 22
 - [proc_DeplCalculateIncrementalSearchScope method](#) 23
 - [proc_DeplExportGroups method](#) 24
 - [proc_DeplExportGroupX method](#) 25
 - [proc_DeplExportRoleAssignments method](#) 26
 - [proc_DeplExportRoleAssignmentX method](#) 28
 - [proc_DeplExportRoles method](#) 30
 - [proc_DeplExportRoleX method](#) 31
 - [proc_DeplExportUsers method](#) 33
 - [proc_DeplExportUserX method](#) 34
 - [proc_DeplFindScopeObject method](#) 35
 - [proc_DeplFindScopeObjectById method](#) 36
 - [proc_DeplFixWebPartsOnListCreation method](#) 37
 - [proc_DeplGetContentTypeData method](#) 37
 - [proc_DeplGetContentTypesToParse method](#) 38
 - [proc_DeplGetDocLibRootFolderUrl method](#) 39
 - [proc_DeplGetFileData method](#) 40
 - [proc_DeplGetFolderById method](#) 51
 - [proc_DeplGetFolderData method](#) 52
 - [proc_DeplGetIncrementalChanges method](#) 54
 - [proc_DeplGetListData method](#) 55
 - [proc_DeplGetListItemAndReserveId method](#) 67
 - [proc_DeplGetListItemByDocId method](#) 69
 - [proc_DeplGetListItemByUrl method](#) 69
 - [proc_DeplGetListItemData method](#) 70
 - [proc_DeplGetLookupItemData method](#) 83
 - [proc_DeplGetLookupListUrl method](#) 83
 - [proc_DeplGetNextObjectBatch method](#) 84
 - [proc_DeplGetParentWebIdForList method](#) 85
 - [proc_DeplGetParentWebIdFromDocId method](#) 86
 - [proc_DeplGetParentWebIdFromDocUrl method](#) 87
 - [proc_DeplGetRootObjects method](#) 87
 - [proc_DeplGetSystemObjects method](#) 88
 - [proc_DeplOrderExportObjects method](#) 89
 - [proc_DeplReserveNextAvailableId method](#) 89
 - [proc_DeplUpdateWebProperties method](#) 90
 - [proc_FileExists method](#) 91
 - [sequencing rules](#) 17
 - [timer events](#) 92
 - [timers](#) 17
- Simple data types
 - [Web Part moderation](#) 12
 - [Web Part scope](#) 12
- [Simple types - overview](#) 15
- [Standards assignments](#) 11
- Structures

- [binary](#) 14
- [XML](#) 15

T

- Tables
 - [#WebParts](#) 15
 - [Links](#) 14
 - [WebPartLists](#) 15
 - [WebParts](#) 14
- Timer events
 - [client](#) 97
 - [server](#) 92
- Timers
 - [client](#) 92
 - [server](#) 17
- [Tracking changes](#) 139
- [Transport](#) 12
- Types
 - [complex](#) 15
 - [simple](#) 15

U

- [Unused Web Parts removal sequencing rules](#) 96

V

- [Vendor-extensible fields](#) 11
- [Versioning](#) 11

W

- [Web Part moderation simple type](#) 12
- [Web Part scope simple type](#) 12
- [WebPartLists table](#) 15
- [WebParts table](#) 14

X

- [XML structures](#) 15