

[MS-FILESYNC]:

File Synchronization Protocol

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1 Introduction

The File Synchronization Protocol specifies the communication required between client to service to help replicate files stored on the service onto the local machine, and how to ensure the files are in sync with the service.

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

globally unique identifier (GUID): A term used interchangeably with universally unique identifier (UUID) in Microsoft protocol technical documents (TDs). Interchanging the usage of these terms does not imply or require a specific algorithm or mechanism to generate the value. Specifically, the use of this term does not imply or require that the algorithms described in [\[RFC4122\]](#) or [\[C706\]](#) must be used for generating the **GUID**. See also universally unique identifier (UUID).

Hypertext Transfer Protocol (HTTP): An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

Hypertext Transfer Protocol Secure (HTTPS): An extension of HTTP that securely encrypts and decrypts web page requests. In some older protocols, "Hypertext Transfer Protocol over Secure Sockets Layer" is still used (Secure Sockets Layer has been deprecated). For more information, see [\[SSL3\]](#) and [\[RFC5246\]](#).

Kerberos: An authentication system that enables two parties to exchange private information across an otherwise open network by assigning a unique key (called a ticket) to each user that logs on to the network and then embedding these tickets into messages sent by the users. For more information, see [\[MS-KILE\]](#).

NT LAN Manager (NTLM) Authentication Protocol: A protocol using a challenge-response mechanism for authentication in which clients are able to verify their identities without sending a password to the server. It consists of three messages, commonly referred to as Type 1 (negotiation), Type 2 (challenge) and Type 3 (authentication). For more information, see [\[MS-NLMP\]](#).

null value: A term that means "having no explicitly assigned value." In particular, a null value is different from a zero or a blank.

personal site: A type of SharePoint site that is used by an individual user for personal productivity. The site appears to the user as My Site.

Security Assertion Markup Language (SAML): The set of specifications that describe security assertions encoded in XML, profiles for attaching assertions to protocols and frameworks, request/response protocols used to obtain assertions, and the protocol bindings to transfer protocols, such as SOAP and HTTP.

Unicode: A character encoding standard developed by the Unicode Consortium that represents almost all of the written languages of the world. The **Unicode** standard [\[UNICODE5.0.0/2007\]](#) provides three forms (UTF-8, UTF-16, and UTF-32) and seven schemes (UTF-8, UTF-16, UTF-16 BE, UTF-16 LE, UTF-32, UTF-32 LE, and UTF-32 BE).

Uniform Resource Locator (URL): A string of characters in a standardized format that identifies a document or resource on the World Wide Web. The format is as specified in [\[RFC1738\]](#).

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

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

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.

[MS-AUTHWS] Microsoft Corporation, "[Authentication Web Service Protocol](#)".

[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>

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

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

[RFC2822] Resnick, P., Ed., "Internet Message Format", RFC 2822, April 2001, <http://www.ietf.org/rfc/rfc2822.txt>

[RFC4648] Josefsson, S., "The Base16, Base32, and Base64 Data Encodings", RFC 4648, October 2006, <http://www.rfc-editor.org/rfc/rfc4648.txt>

[XMLSCHEMA1/2] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures Second Edition", W3C Recommendation, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/>

1.2.2 Informative References

[MS-SPO] Microsoft Corporation, "[SharePoint Protocols Overview](#)".

1.3 Overview

For a client to replicate files on a service to a local machine, the client **MUST** be able to perform a set of different actions.

Typical scenarios for using this protocol is to start the initial sync of a collection of files and folders onto a local machine, and to ensure any changes made locally or on the service and are replicated onto the other endpoint.

This protocol documentation will go into the details of how a client can:

- Authenticate against the service
- Discover and locate file store locations on the service
- Obtain specific settings from the service that dictate how a client should behave

- Register for notifications on changes to the files in the service
- Upload and download of files to and from the service

1.4 Relationship to Other Protocols

This protocol uses the XML message protocol for formatting request and response messages as described in [\[XMLSCHEMA1/2\]](#). It transmits those messages by using **HTTP**, as described in [\[RFC2616\]](#) or Hypertext Transfer Protocol over Secure Sockets Layer (**HTTPS**), as described in [\[RFC2818\]](#).

1.5 Prerequisites/Preconditions

This protocol operates against a Sharepoint server that is identified by a **URL** that is known by protocol clients.

1.6 Applicability Statement

This protocol is designed to sync a user defined file system between local and cloud storage.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Protocol servers **MUST** support XML over **HTTP**. Protocol servers SHOULD additionally support XML over **HTTPS** for securing communication with clients.

Protocol messages **MUST** be formatted as specified in [\[XMLSCHEMA1/2\]](#). Protocol server faults **MUST** be returned either using HTTP Status Codes, as specified in [\[RFC2616\]](#) section 10.

2.2 Common Data Types

This protocol specifies the following types as XML attribute values:

Binary: A base64-encoded string representation of the binary data, as defined in [\[RFC4648\]](#).

Hex String: A hexadecimal string attribute **MUST** consist of characters in the ranges 0 through 9 and "A" through "F". Hexadecimal strings **MUST** be compared as hexadecimal numbers.

Int: This attribute **MUST** be a decimal string representation of an integer in the range 0 through 2,147,483,647.

Null: A **null value** attribute that **MUST** be an empty string.

String: A **Unicode** string.

2.2.1 Simple Types

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

| Simple Type | Description |
|------------------|--|
| Folder | Defines a resource object. MUST be used as the root element of any XML. |
| ItemType | String value declares the type of item in this entry. Possible values include "Folder", "Document", "Item" and "Photo". |
| ResourceID | Value is a hexadecimal string used to identify the defined resource. |
| ETag | ETags are essentially version numbers for items in storage. They are updated by the server every time a change is made to an item in storage. The client MUST NOT make any assumption about their structure (they're considered a black box) and only uses equality operations to compare them. |
| DateCreated | Value defines the date that the resource object was created. |
| DateModified | Value defines the date that the resource object was last modified. |
| Path | Relative file path of the resource object with respect to the root folder. |
| Items | Contains the subset of the resource objects contained in the root folder. |
| RelationshipName | Contains the display name of the resource object |
| ParentResourceID | Contains the ResourceID of the parent containing the resource object. |

| Simple Type | Description |
|------------------|--|
| TotalSubItemSize | Total size of the resource object. |
| QuotaState | Defines the quota state of the root folder. Values include "Unknown", "Normal", "Nearing", "Critical", "Full" and "OverLimit". |
| SpaceUsed | Defines the server space used by the resource object in bytes. |
| SpaceGranted | Defines the total space on the server granted to the user in bytes. |

2.2.2 Attributes

All **HTTP** requests contain headers with various metadata that can be used by client and server. Whether or not a specific header is required is dependent on the operation in question and will be covered in section [3](#). The following is a glossary of known HTTP headers in client requests:

| Header | Description |
|-----------------|--|
| Accept | String value defining what type of response the client should accept from the server. Potential values include: "application/xml", "application/web3s+xml" and "application/json". |
| Accept-Encoding | String value set by the client that tells the server what to do with the payload. Values include "peerdist", "gzip" and "deflate". |
| Accept-Language | String value set by the client indicating what language the server response should use. |
| Cookie | Authorization cookie used to authenticate a user between client and server. For example: AAD to SPO: Cookie: SPOIDCRL=<ticket string> |
| User-Agent | String indicating information about the client version and the operating system on which the client is running. E.g. Microsoft SkyDriveSync 18.131.0701.0002 ship; Windows NT 10.0 (15063). New clients should pass a unique product name beginning with their company name followed by a recognizable product name. This name should remain consistent throughout the lifetime of a product. Product version number should update with each new build of a product that interacts with a SharePoint server. |
| Application | String indicating whether a request is a sync request or a diagnostic request. Values are "SkyDriveSync" for a diagnostic request and a "OneDriveSync" for a sync request. New clients should pass a product name similar to that described in the User-Agent header. |
| Scenario | String value indicating to the server what type of operation scenario is in progress. Scenario types and definitions are in section 2.2.2.3 . |

| Header | Description |
|-------------------------------|--|
| X-EnumerationReason | String value lets the service differentiate traffic from full enumerations based on the trigger and any additional context provided by the service. |
| X-GeoMoveOptions | String value indicating an HTTP redirection has occurred. Will not appear without a redirection. Value is always "HttpRedirection". |
| X-MachineDomainInfo | GUID value indicating domain permissions from the machine that originated the request. Server will validate the info by checking whether the calls from that machine are enabled (i.e. "white-listed") for given domain. Tied to X-MachineId. |
| X-MachineId | GUID value indicating the ID of the machine that originated the request. |
| X-RequestDigest | Digest cached by the client to authenticate with the server. Server will return an HTTP_FORBIDDEN error if this field is missing. This is provided by the server at initial user authentication. |
| X-RequestStats | String of concatenated key value pairs (KVP) that indicate statistics about the request. Categories include: "FilesToUploadCount", "BytesToUploadCount", "RetryCount", "RetryReason", "DeviceID", "FailureInfo", "BandwidthLimitedRate", "MachineName" and "TempSyncID". Pairs are delimited by the "?" character and subentries are delimited by the " " character. Primarily used for debugging. |
| X-ResponseStructure | Used to specify which change enumeration format to request and identify which format the server responded with. Values MUST be "Hierarchical" or "Flat". |
| X-RestrictedReadCapabilities | Represents sync client capabilities in request header to read only sync for library features (Require Check out, Content Approval) |
| X-RestrictedWriteCapabilities | Represents sync client capabilities in request header to handle writes for library features (Require Check out, Content Approval). |
| X-SyncFeatures | Used to specify which features the sync engine supports. Possible values are: "None", "RESERVED", "SpecialFolders", "ParsableFileEnumeration", "RequestSharingStatus", "EncodeUrls" and "LastFeature". |
| X-TransactionId | String containing a server generated GUID concatenated with the scenario (see section 2.2.2.3). |
| Host | String value containing the server URL. |

2.2.2.1 ClientPolicy

The ClientPolicy is the name given to the list of user-specific settings downloaded during OneDrive initialization. These settings are unique to the user and the SharePoint site hosting the user's data and are downloaded in XML format during the initialization or first run process and refreshed periodically. The relevant fields are as follows:

| Value | Description |
|---------------------------------------|--|
| PolicyDocumentPollIntervalSeconds | Time in seconds of how often the client will poll for client policy changes. |
| PolicyDocumentPrefetchIntervalSeconds | Time in seconds of how long until the client will poll for client policy changes. |
| BackgroundPollShortIntervalSeconds | Number of seconds the client should wait before requesting new changes from server when Push Notification has <i>not</i> been successfully configured. |
| BackgroundPollLongIntervalSeconds | Number of seconds the client should wait before requesting new changes from server when Push Notification has been successfully configured. |
| UploadBlockSizeKB | Size in kilobytes of each uploaded file block. |
| DownloadBlockSizeKB | Size in kilobytes of each downloaded file block. |
| MaxClientRequestsPerDay | Maximum number of times the client can poll the policy per day. Client should self-throttle requests if over this limit. |
| MaxClientMBTransferredPerDay | Max number of megabytes of data the client can transfer per day. Client should self-throttle requests if over this limit. |
| MaxFileSizeBytes | Maximum file size in bytes that the client may transfer. |
| HighVisibilityFileExclusionList | List of files/folders that MUST NOT be sent to the server by the client. |
| DavUriMatches | Regex value that determines the acceptable format for the user's sync site URL. |
| DavUriTemplate | String template for the sync site's folder structure. Used in conjunction with the local file path to determine a file's path on the server. |
| ShareUriTemplate | Used for generating the OneDrive site URL. |
| ShareUriTemplateV2 | Only used in SPO. See ShareUriTemplate. |
| OfficeExcludeList | List of file types to be excluded from client scope. Consists of only file types associated with Microsoft Office. |
| WacUriTemplate | Template URL used to generate OneNote URL using other values from the Client Policy. |
| SkyDriveURI | URI of the root folder in the OneDrive scope. |
| SkyDriveItemsURI | Used to construct a URI for a specific resource within the OneDrive scope. |
| QosCollectionEnabled | Deprecated. Always set to false. |

| Value | Description |
|----------------------------------|--|
| HashAlgorithm | Name of the hash algorithm to use for the connected sync scopes. Can be set to "XORHash" or "SHA1Hash". |
| DavUrlNamespace | Root folder namespace. |
| MaxUrlLength | Length of the max URL generated for every change on the service in characters. |
| MaxInlineUploadSizeKB | Maximum size in KB to allow inlining the file in a single upload request. |
| StorageManagementURI | URL for the Manage Storage page. |
| ViewOnlineUrlTemplate | Template URL used for the "View Online" option in the explorer context menu. |
| DownloadUrlTemplate | Template URL used for the downloading of files. |
| DownloadStreamingMaxStreamSizeKB | The number of KB to request from the service in one HTTP request if the EnableDownloadStreaming ramp is on. |
| RecycleBinURI | URI for the server-side Recycle Bin. |
| DisableReportProblemDialog | Set to "true" in order to force the Report Problem Dialog feature to turn off. |
| WebPushAppServerPublicKey | Web push public key of the server. If non-empty, Web Push protocol MAY BE registered by the client using this key for push notifications of server side changes to files being synced. |
| CollabVectorClockURI | The URI to fetch OCS clock data. |
| SiteTitle | Name of the SharePoint site hosting the library from the policy document containing this setting. |
| LibraryTitle | Name of the SharePoint library for which this policy document was downloaded. |
| TelemetryId | When non-empty this indicates the on premises SharePoint Server admin has opted into telemetry sending. The Client can send this value as part of telemetry events to uniquely identify the on premises SharePoint server they are communicating with. |

2.2.2.2 DefaultDocumentLib

Typically, when adding a user to a SharePoint Server, a OneDrive site is created for that user which includes a document library. The client determines the URL of this "DefaultDocumentLib" when first configuring the client for the user. If the user's default document library exists, a sync relationship with this library is established and its content is always downloaded during initialization of OneDrive. See [\[MS-SPO\]](#) for more information on document libraries.

2.2.2.3 Scenarios

There are multiple scenarios that occur during normal operations of the file sync client. Any implementation of the file sync protocol **MUST** include the following scenarios:

- StorageSubScopeChangeEnumerationScenario
- StorageChangeEnumerationScenario
- StorageSubScopeStartupChangeEnumerationScenario
- StorageStartupChangeEnumerationScenario
- StorageSubScopeWNSNotificationChangeEnumerationScenario
- StorageWNSNotificationChangeEnumerationScenario
- StorageSubScopePollingChangeEnumerationScenario
- StoragePollingChangeEnumerationScenario
- StorageSelectiveSyncEnumerationScenario

3 Protocol Details

3.1 Client Details

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

This protocol is a client-based protocol that communicates with an On-Premises SharePoint Server to sync files between a local system and the cloud. The protocol does so through a series of **HTTP** GET and SET requests that contain XML payloads defining resource objects shared between the endpoints. The protocol always follows a set pattern of steps while running, detailed as follows:

1. First Time Initialization – see section [3.1.3](#) for more detail
 1. Authenticate the user credentials
 2. Gets user’s properties, policies and default information
 3. Get root folder information and file structure
 4. Download or Upload any files that don’t currently exist on the local disk or on the server respectively
2. Any operations after initialization is completed (also known as the Nth run operations) see section [3.1.5.1](#) and section [3.1.5.3](#) for more detail
 1. Request server status
 2. Sync any changes made between client and server. This includes all file operations on both client and server sides.
 3. Perform file operations as indicated by the sync response.
 4. Query the server to ensure changes match local changes.

3.1.1 Abstract Data Model

Not available.

3.1.2 Timers

Not available.

3.1.3 Initialization

Client initialization contains a series of **HTTP**, GET, and POST communications known as the first run. During the first run the client syncs with the OnPremises SharePoint server, authenticates the user’s credentials, downloads the **ClientPolicy** (section [2.2.2.1](#)), determines the **DefaultDocumentLib** (section [2.2.2.2](#)) and downloads or uploads files as needed from the server. The list of HTTP requests can be found in the following table:

| HTTP Request | Description |
|---|---|
| GET https://<serverurl>/ | Authenticates a user against On-Premises SharePoint Server. There will be several back and forth requests and responses depending on the authorization scheme being used. |
| GET https://<serverurl>/_api/sp.userprofiles.peoplemanager/getmyproperties | Gets properties of a user logged into local client to determine personal site URL . Gets a response as XML. See section 4.1.1 . |
| GET https://<serverurl>/personal/<useralias>/_api/web/DefaultDocumentLibrary/ID | Gets the relative path to a user’s personal site. Retrieved from response in previous request XML data (PersonalURL element). See section |

| HTTP Request | Description |
|--|--|
| | 4.1.2. |
| GET https://<serverurl>/personal/<useralias>/_api/Site/Id | Gets a user's personal site ID. |
| GET https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28-dd1c-4f2f-8e83-acdb6fffff05/policy/ | Gets a user's personal site global client policy as an XML response using the personal site ID (a GUID) from the previous response. See section 4.1.3. |
| GET https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/policy/ | Gets the server specific client policy for a user's personal site as an XML response. Though this seems to duplicate the previous call a different XML response is received. See section 2.2.2.1. |
| GET https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder | Gets a personal site root folder properties as an XML response. See section 4.1.4. |
| GET https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/Items/eb99ad0e96e64d1fb3547dff4fddbfa0?View=SkyDriveSync&Depth=0&FoldersOnly=true&web3s.paging=0,100 GET https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?web3s.expand=QuotaState | Using the RootFolder response above and responses to these calls, recursively walks the tree of nested folders until all server folders have been obtained. For each folder the client MAY determine the server allocated quota to inform the user. See section 4.1.5. |
| POST https://<serverurl>/personal/<useralias>/_api/spfilesync/sync/be100e28dd1c4f2f8e83acdb6fffff05/Subscription | Subscribes to web push notifications from SharePoint Server for future changes. |

3.1.4 Higher-Layer Triggered Events

The MS FILESYNC protocol **SHOULD NOT** support any triggered events outside of the OneDrive client. Though user actions may be taken on the server side of the protocol no MS FILESYNC protocol events are triggered. Instead, if the WNS Push channel was successfully provided to the SharePoint Server via the Subscription method in described in 3.1.3, the SharePoint Server will attempt to notify the client via the established WNS Push channel. Also, a timed sync MAY be initiated from the client side to get and process any updates that have occurred server side at an interval which **MUST** be no quicker than client policy defined BackgroundPollShortIntervalSeconds value. If the WNS Push channel was established the sync client SHOULD use the client policy defined BackgroundPollLongIntervalSeconds value for the interval.

3.1.5 Message Processing Events and Sequencing Rules

The following are events that occur during normal runtime of the MS FILESYNC protocol and the associated requests and responses. Collectively these events are known as Nth Run Operations, i.e. a standard set of events that occur during regular usage of the protocol. These events include but are not limited to file operations (e.g. renaming, moving, creation, deletion, etc.) from both client side and server side. Operations also include **personal site** syncing and the file operations associated with such.

3.1.5.1 Authentication

The client **MUST** authenticate with the server using a SharePoint recognized user identity. The details on this authentication profile can be found in [\[MS-AUTHWS\]](#). Also this protocol supports authentication over multiple transfer protocols:

- HTTP/HTTPS
- **NTLM**
- Forms based Authentication (FBA)
- **Kerberos**
- **SAML**

3.1.5.2 File Verification

To verify that the client version of a file matches the server's version a hash value is used. In its response to any file changes the server will include an "XORHash" element in its response XML (see section [4.7](#)). The client **MUST** generate a value from the local version of the file and compare it to the server's provided hash to determine if a resync is needed. The XOR hash algorithm is detailed below:

Let's say a block is a 160 bit block of bits.

block zero() returns a block with all zero bits.

block extend8(byte b) returns a block with all zero bits except for the lower 8 bits which come from b.

block extend64(int64 i) returns a block of all zero bits except for the lower 64 bits which come from i.

block rotate(block bl, int n) returns bl rotated left by n bits.

block xor(block bl1, block bl2) returns a bitwise xor of bl1 with bl2

byte[] xorArray(byte rgb1[], byte rgb2[], cb) returns the bitwise xor of each element.

Then XorHash0(byte rgb[], int cb) is { block ret = zero(); for (int i = 0; i < cb; i++) { ret = xor(ret, rotate(extend8(rgb[i]), i * 11)); } return ret; } and

XorHash(byte rgb[], int cb) is { return xor(extend64(cb), XorHash0(rgb, cb)); }

For a code example of the above, see <https://docs.microsoft.com/en-us/onedrive/developer/code-snippets/quickxorhash?view=odsp-graph-online>.

3.1.5.3 Client-Side Nth Run Operations

| HTTP Request | Description |
|--|--|
| POST https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6ffff05/RootFolder?View=SkyDriveSync&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6ffff05;636699523046970000;58156;%23;%23;%234 | Inform the SharePoint Server of a file Move to another location inside the scope of the syncing folder. See section 4.3 for an example of the XML payload. |
| GET https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6ffff05/RootFolder?Filter=chan | Client requests server status via XML payload to ensure the operation above was carried out successfully. This type of request MUST follow |

| HTTP Request | Description |
|--|--|
| ges&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699579166800000;58161;%23;%23;%234&View=SkyDriveSync | any file operation request. |
| POST https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?View=SkyDriveSync&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699579388970000;58164;%23;%23;%234 | Rename file inside syncing folder. (NOTE: While the http request is very similar to moving a file, the XML payload associated with the request is different. See section 4) |
| POST https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?View=SkyDriveSync&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699579579600000;58167;%23;%23;%234 | Delete a file inside the syncing folder. (NOTE: While the http request is very similar to moving a file, the XML payload associated with the request is different. See section 4) |
| POST https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?View=SkyDriveSync | Move a file into the scope of the syncing folder. (NOTE: While the http request is very similar to moving a file, the XML payload associated with the request is different. See section 4) |
| POST https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?View=SkyDriveSync&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699581074230000;58171;%23;%23;%234 | Move a file out of the scope of the syncing folder. (NOTE: While the http request is very similar to moving a file, the XML payload associated with the request is different. See section 4) |

One key to understanding the requests above is the SyncToken. Note that in all the above examples there is a SyncToken= followed by a series of values; this is received during the initialization phase (see section 3.1.3) and cached to authorize against the server when sync requests are made. Any requests made **MUST** contain this token or the server will reject the request.

3.1.5.4 Server Side Nth Run Operations

All server-side operations are evaluated by the client during a client-initiated sync call. The **HTTP** requests for these sync calls are all very similar regardless of the type of operations that occur server side; the primary difference is in the XML payload response received from the server. An example of the sync request is as follows:

```
GET
https://<serverurl>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699581579070000;58172;%23;%23;%234&View=SkyDriveSync
```

The primary indicator of what sort of sync (if any) needs to be made is a header value in the response called X-SyncStatus. This header **MUST** contain one of the following string values: NoChanges, IncrementalChanges, FullData, ResyncNeeded and CurrentSyncTokenOnly.

The most common values of SyncStatus are NoChanges, IncrementalChanges and FullData. If the value is NoChanges then the client and server are in sync and no further operations are required. IncrementalChanges indicates that changes need to be synced from the server to the client. FullData is used during the first run; it indicates that a full download from the server is required and the client **MUST** request a complete sync. CurrentSyncTokenOnly informs the client that it **MUST** delete its cached sync token and retrieve a new one from the server.

ResyncNeeded is used to tell the client to perform a type of resync and has a corollary field: ResyncAction. This field has three potential values: "ResetReupload", "Reupload" and "DifferentialUpload". This field informs the client what type of resync is required and the client **MUST** support reset resyncs, reupload resyncs and differential upload resyncs. If no resync action is received the client **MUST** default to a reupload resync. During a reset resync the client **MUST** delete all local data and redownload it from the server. During a reupload resync the client **MUST** get the list of files on the server, compare it to its local files and reupload any files missing on the server. During a differential resync the server will send a list of files and the client **MUST** determine what files are not present on the list and modify the local file structure to mirror the list.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

To establish a sync relationship with a team site document library, the client MAY register a URL moniker web browser handler for ODOpen. A user opens the site in their web browser (they may have received a link in email or followed hyperlinks to reach the site). They then click the Sync menu item on the SharePoint Server provided web UI. This invokes the URL protocol handler for ODOpen. If the sync client has registered as a handler of ODOpen a new instance of the client will be started and be passed the contents of the ODOpen URL as defined in their ODOpen handler registration with the host operating system. The sync client is then able to follow a sequence very similar to the initialization sequence starting with the client policy request in section [3.1.3](#).

4 Protocol Examples

This section will contain examples of Fiddler data captures of client requests and responses returned by the server in various scenarios. For descriptions of the various XML elements see section [2.2.1](#) and section [2.2.2](#).

4.1 Initialization Examples

4.1.1 Retrieve User Properties

4.1.1.1 Client Request

```
GET https://<server_url>/_api/sp.userprofiles.peoplemanager/getmyproperties HTTP/1.1
Connection: Keep-Alive
Accept-Encoding: peerdist
User-Agent: Microsoft SkyDriveSync 18.131.0701.0002 ship; Windows NT 10.0 (15063)
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <server_url>
Cookie: <cookie data>
```

4.1.1.2 Server Response

```
HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Content-Type: application/atom+xml;type=entry;charset=utf-8
Expires: Sun, 01 Jul 2018 19:55:29 GMT
Last-Modified: Mon, 16 Jul 2018 19:55:29 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
DATASERVICEVERSION: 3.0
SPClientServiceRequestDuration: 29
SPRequestDuration: 41
X-AspNet-Version: 4.0.30319
SPRequestGuid: 656d7b9e-6998-b069-12e9-e1295f5a8209
request-id: 656d7b9e-6998-b069-12e9-e1295f5a8209
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10325; 1; RequireReadOnly
Date: Mon, 16 Jul 2018 19:55:28 GMT
Content-Length: 15710
```

```
<?xml version="1.0" encoding="utf-8"?><entry xml:base="https://<server_url>/_api/"
xmlns="http://www.w3.org/2005/Atom"
xmlns:d="http://schemas.microsoft.com/ado/2007/08/dataservices"
xmlns:m="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata"
xmlns:georss="http://www.georss.org/georss"
xmlns:gml="http://www.opengis.net/gml"><id>https://<server_url>/_api/sp.userprofiles.peopleman
ager/getmyproperties</id><category term="SP.UserProfiles.PersonProperties"
scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme" /><link rel="edit"
href="sp.userprofiles.peoplemanager/getmyproperties" /><title /><updated>2018-07-
16T19:55:29Z</updated><author><name /></author><content
type="application/xml"><m:properties><d:AccountName> </d:AccountName><d:DirectReports
m:type="Collection(Edm.String)" /><d:DisplayName> </d:DisplayName><d:Email m:null="true"
/><d:ExtendedManagers m:type="Collection(Edm.String)" /><d:ExtendedReports
```

m:type="Collection(Edm.String)"><d:element> </d:element></d:ExtendedReports><d:IsFollowed
m:type="Edm.Boolean">>false</d:IsFollowed><d:LatestPost m:null="true" /><d:Peers
m:type="Collection(Edm.String)" /><d:PersonalSiteHostUrl>
</d:PersonalSiteHostUrl><d:PersonalUrl></d:PersonalUrl><d:PictureUrl m:null="true" /><d>Title
m:null="true" /><d:UserProfileProperties><d:element
m:type="SP.KeyValue"><d:Key>UserProfile_GUID</d:Key><d:Value>f68c0dca-a3a5-43ff-97c6-
bdc3da5d24a0</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>SID</d:Key><d:Value>S-1-5-21-2127521184-1604012920-
1887927527-
32494674</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>ADGuid</d:Key><d:Value></d:Value><d:ValueType>Edm.String<
</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>AccountName</d:Key><d:Value>
</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>FirstName</d:Key><d:Value></d:Value><d:ValueType>Edm.Strin
g</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
PhoneticFirstName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueTyp
e></d:element><d:element
m:type="SP.KeyValue"><d:Key>LastName</d:Key><d:Value></d:Value><d:ValueType>Edm.Strin
g</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
PhoneticLastName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueTyp
e></d:element><d:element m:type="SP.KeyValue"><d:Key>PreferredName</d:Key><d:Value>
</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>SPS-
PhoneticDisplayName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueTyp
e></d:element><d:element
m:type="SP.KeyValue"><d:Key>WorkPhone</d:Key><d:Value></d:Value><d:ValueType>Edm.Stri
ng</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>Department</d:Key><d:Value></d:Value><d:ValueType>Edm.Stri
ng</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>Title</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:
ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
Department</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element>
<d:element
m:type="SP.KeyValue"><d:Key>Manager</d:Key><d:Value></d:Value><d:ValueType>Edm.String
</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>AboutMe</d:Key><d:Value></d:Value><d:ValueType>Edm.String
</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>PersonalSpace</d:Key><d:Value>/personal/
</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>PictureURL</d:Key><d:Value></d:Value><d:ValueType>Edm.Strin
g</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>UserName</d:Key><d:Value>
</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>QuickLinks</d:Key><d:Value></d:Value><d:ValueType>Edm.Strin
g</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>WebSite</d:Key><d:Value></d:Value><d:ValueType>Edm.String
</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>PublicSiteRedirect</d:Key><d:Value></d:Value><d:ValueType>Ed
m.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
JobTitle</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:e
lement m:type="SP.KeyValue"><d:Key>SPS-
DataSource</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element>
<d:element m:type="SP.KeyValue"><d:Key>SPS-
MemberOf</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><
<d:element m:type="SP.KeyValue"><d:Key>SPS-Dotted-
line</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:elem
ent m:type="SP.KeyValue"><d:Key>SPS-

Peers</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-Responsibility</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-SipAddress</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-MySiteUpgrade</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-DontSuggestList</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ProxyAddresses</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-HireDate</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-DisplayOrder</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ClaimID</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ClaimProviderID</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-LastColleagueAdded</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-OWAUrl</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ResourceSID</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ResourceAccountName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-MasterAccountName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-UserPrincipalName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-O15FirstRunExperience</d:Key><d:Value>262160</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-PersonalSiteInstantiationState</d:Key><d:Value>2</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-DistinguishedName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-SourceObjectDN</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-LastKeywordAdded</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ClaimProviderType</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-SavedAccountName</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-SavedSID</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-ObjectExists</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-PersonalSiteCapabilities</d:Key><d:Value>4</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-PersonalSiteFirstCreationTime</d:Key><d:Value>7/10/2018 5:02:33 PM</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-PersonalSiteLastCreationTime</d:Key><d:Value>7/10/2018 5:02:33 PM</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-PersonalSiteNumberOfRetries</d:Key><d:Value>1</d:Value><d:ValueType>Edm.String</d:ValueTy

pe></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
PersonalSiteFirstCreationError</d:Key><d:Value>Personal Site already
exists.</d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>SPS-
FeedIdentifier</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element
><d:element
m:type="SP.KeyValue"><d:Key>WorkEmail</d:Key><d:Value></d:Value><d:ValueType>Edm.Strin
g</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>CellPhone</d:Key><d:Value></d:Value><d:ValueType>Edm.Strin
g</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>Fax</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:V
alueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>HomePhone</d:Key><d:Value></d:Value><d:ValueType>Edm.Stri
ng</d:ValueType></d:element><d:element
m:type="SP.KeyValue"><d:Key>Office</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d
<:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
Location</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:
element
m:type="SP.KeyValue"><d:Key>Assistant</d:Key><d:Value></d:Value><d:ValueType>Edm.String
</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
PastProjects</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element>
<d:element m:type="SP.KeyValue"><d:Key>SPS-
Skills</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:ele
ment m:type="SP.KeyValue"><d:Key>SPS-
School</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:el
ement m:type="SP.KeyValue"><d:Key>SPS-
Birthday</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:
element m:type="SP.KeyValue"><d:Key>SPS-
StatusNotes</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element>
<d:element m:type="SP.KeyValue"><d:Key>SPS-
Interests</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d
<:element m:type="SP.KeyValue"><d:Key>SPS-
HashTags</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d
<:element m:type="SP.KeyValue"><d:Key>SPS-
EmailOptin</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><
d:element m:type="SP.KeyValue"><d:Key>SPS-
PrivacyPeople</d:Key><d:Value>True</d:Value><d:ValueType>Edm.String</d:ValueType></d:ele
ment><d:element m:type="SP.KeyValue"><d:Key>SPS-
PrivacyActivity</d:Key><d:Value>4095</d:Value><d:ValueType>Edm.String</d:ValueType></d:el
ement><d:element m:type="SP.KeyValue"><d:Key>SPS-
PictureTimestamp</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:ele
ment><d:element m:type="SP.KeyValue"><d:Key>SPS-
PicturePlaceholderState</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></
d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
PictureExchangeSyncState</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType>
</d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
MUILanguages</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:elemen
t><d:element m:type="SP.KeyValue"><d:Key>SPS-
ContentLanguages</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:ele
ment><d:element m:type="SP.KeyValue"><d:Key>SPS-
TimeZone</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><
d:element m:type="SP.KeyValue"><d:Key>SPS-RegionalSettings-
FollowWeb</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><
d:element m:type="SP.KeyValue"><d:Key>SPS-
Locale</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:el
ement m:type="SP.KeyValue"><d:Key>SPS-
CalendarType</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element
><d:element m:type="SP.KeyValue"><d:Key>SPS-

```

AltCalendarType</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
AdjustHijriDays</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
ShowWeeks</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
WorkDays</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
WorkDayStartHour</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
WorkDayEndHour</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
Time24</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
FirstDayOfWeek</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
FirstWeekOfYear</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-RegionalSettings-
Initialized</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>OfficeGraphEnabled</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
UserType</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
HideFromAddressLists</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
RecipientTypeDetails</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>DelveFlags</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>VideoUserPopup</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>PulseMRUPeople</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>msOnline-
ObjectId</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
PointPublishingUrl</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
TenantInstanceId</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
SharePointHomeExperienceState</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
RefreshToken</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element><d:element m:type="SP.KeyValue"><d:Key>SPS-
MultiGeoFlags</d:Key><d:Value></d:Value><d:ValueType>Edm.String</d:ValueType></d:element></d:UserProfileProperties><d:UserUrl> </d:UserUrl></m:properties></content></entry>

```

4.1.2 Getting Default Document Library

4.1.2.1 Client Request

```

GET https://<server_url>/personal/<user_alias>/_api/web/DefaultDocumentLibrary/ID HTTP/1.1
Connection: Keep-Alive
Content-Type: application/json
Accept: application/json;odata=verbose
Accept-Encoding: peerdist
Cookie:

```

User-Agent: Microsoft SkyDriveSync 18.131.0701.0002 ship; Windows NT 10.0 (15063)
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <server_url>
Authorization: NTLM
TIRMTVNTUAADAAAAGAAAYAIgAAAAAAGACoAAAAA4ADgBYAAAAEAAQAGYAAAAASABIAAgAAAAAACgA
gAABYKIogoA1zoAAAAPTEXP1vGy/wCbRGAwyp39x1IARQBEE0ATwBOAEQAdgAtAGoAbwBzAG0AaQBs
AFYALQBKAIE8AUwBNAEKATAAxAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAKDehWd+C1gHp7ZgakON
DoABAQAAAAAAAMhdv/I+HdQB3LY7BLq8rdvNLnvMAGASAE8ARgBGAEkAQwBFAEQATwBHAAEAHAA5A
DkANwBDAC0AQgBOADMALQBQAEYARQAwADEABABKAG8AZgBmAGkAYwBIAGQAbwBnAC4AcwBIAGW
AZgBoAG8AcwB0AC4AYwBvAHIAcAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4AYwBvAG0AAwBoADkAOQA3
AEMALQBCAE4AMwAtAFAARgBFADAAMQAUAG8AZgBmAGkAYwBIAGQAbwBnAC4AcwBIAGwAZgBoAG8A
cwB0AC4AYwBvAHIAcAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4AYwBvAG0ABQBKAG8AZgBmAGkAYwBIA
GQAbwBnAC4AcwBIAGwAZgBoAG8AcwB0AC4AYwBvAHIAcAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4AYw
BvAG0ABwAIAmhdv/I+HdQBbgAEAAIAAAAIADAAMAAAAAABAAAAACAAEL+zgz1IqYp/xIrHSzKD
nBt32sCBO9rX/whiiDzSlwDCgAQABwcl/1STvycYrU5eIW0MYJACoASABUAFQAUAAvAHMAcAAAtAG0AeQ
AuAG8AZgBmAGkAYwBIAC4AYwBvAG0AAAAAActj47d

4.1.2.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: application/json;odata=verbose;charset=utf-8
Expires: Sun, 01 Jul 2018 19:55:29 GMT
Last-Modified: Mon, 16 Jul 2018 19:55:29 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
DATASERVICEVERSION: 3.0
SPClientServiceRequestDuration: 14
SPRequestDuration: 130
X-AspNet-Version: 4.0.30319
SPRequestGuid: 656d7b9e-c9b0-b069-af86-d149c8e32d31
request-id: 656d7b9e-c9b0-b069-af86-d149c8e32d31
X-FRAME-OPTIONS: SAMEORIGIN
Persistent-Auth: true
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10325; 1; RequireReadOnly
Date: Mon, 16 Jul 2018 19:55:29 GMT

{"d":{"Id":"be100e28-dd1c-4f2f-8e83-acdb6ffff05"}}

4.1.3 Client Policy

4.1.3.1 Client Request

GET https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28-dd1c-4f2f-8e83-
acdb6ffff05/policy/ HTTP/1.1
Connection: Keep-Alive
Accept-Encoding: peerdist
Cookie:
User-Agent: Microsoft SkyDriveSync 18.131.0701.0002 ship; Windows NT 10.0 (15063)
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <server_url>

4.1.3.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Content-Type: Application/Xml
Expires: Sun, 01 Jul 2018 19:55:30 GMT
Last-Modified: Mon, 16 Jul 2018 19:55:30 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
SPClientServiceRequestDuration: 56
SPRequestDuration: 68
X-AspNet-Version: 4.0.30319
SPRequestGuid: 656d7b9e-59c4-b069-af86-d69301c136e1
request-id: 656d7b9e-59c4-b069-af86-d69301c136e1
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10325; 1; RequireReadOnly
Date: Mon, 16 Jul 2018 19:55:29 GMT
Content-Length: 3390

```
<?xml version="1.0"?>
<PolicyDocument xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" Id="SkyDriveSyncV1">
<RangeRule Name="PolicyDocumentPollIntervalSeconds" Start="21600" End="28800" />
<RangeRule Name="PolicyDocumentPrefetchIntervalSeconds" Start="3600" End="7200" />
<RangeRule Name="BackgroundPollShortIntervalSeconds" Start="90" End="110" />
<RangeRule Name="BackgroundPollLongIntervalSeconds" Start="7200" End="10800" />
<Rule Name="UploadBlockSizeKB" Value="8160" />
<Rule Name="DownloadBlockSizeKB" Value="8160" />
<Rule Name="MaxClientRequestsPerDay" Value="2500000" />
<Rule Name="MaxClientMBTTransferredPerDay" Value="1048576" />
<Rule Name="MaxFileSizeBytes" Value="10737418240" />
<Rule Name="HighVisibilityFileExclusionList" Value="*.*|*~*
|*_vti_*|~|~site|~sitecollection|~masterurl|~templatepageurl" />
<DavUrlMatches>
<DavUrlMatch>^https://<server_url>/personal/<user_alias>/Documents((\./.*?))</DavUrlMatch
>
</DavUrlMatches>
<Rule Name="DavUrlTemplate"
Value="https://<server_url>/personal/<user_alias>/Documents/{Path}" />
<Rule Name="ShareUrlTemplate"
Value="https://<server_url>/personal/<user_alias>/_layouts/15/SkySyncRedir.aspx?Type=1&R
esourceId={ResourceID}" />
<Rule Name="ShareUrlTemplateV2"
Value="https://<server_url>/personal/<user_alias>/_layouts/15/SkySyncRedir.aspx?Type=3&R
esourceId={ResourceID}" />
<Rule Name="OfficeExcludeList" Value="|" />
<Rule Name="WacUrlTemplate"
Value="https://<server_url>/personal/<user_alias>/?d=w{ResourceID}&cid={hexcid}" />
<Rule Name="SkyDriveURI"
Value="https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acd
b6ffff05/RootFolder" />
<Rule Name="SkyDriveItemsURI"
Value="https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acd
b6ffff05/Items/{ResourceID}" />
<Rule Name="QosCollectionEnabled" Value="False" />
<Rule Name="HashAlgorithm" Value="XORHash" />
```

```

<Rule Name="DavUriNamespace" Value="https://<server_url>/personal/<user_alias>/Documents/"
/>
<Rule Name="MaxUrlLength" Value="400" />
<Rule Name="MaxInlineUploadSizeKB" Value="4080" />
<Rule Name="StorageManagementURI"
Value="https://<server_url>/personal/<user_alias>/_layouts/15/storman.aspx" />
<Rule Name="ViewOnlineUrlTemplate"
Value="https://<server_url>/personal/<user_alias>/_layouts/15/SkySyncRedir.aspx?Type=2&R
esourceId={ResourceID}" />
<Rule Name="DownloadUrlTemplate"
Value="https://<server_url>/personal/<user_alias>/_layouts/15/download.aspx?UniqueId={Resourc
eID}" />
<Rule Name="DownloadStreamingMaxStreamSizeKB" Value="102400" />
<Rule Name="RecycleBinURI"
Value="https://<server_url>/personal/<user_alias>/_layouts/15/onedrive.aspx?view=5" />
<Rule Name="DisableReportProblemDialog" Value="False" />
<Rule Name="WebPushAppServerPublicKey"
Value="BNA2iwHRTFRscrz2QLzludxneeSoidjeTAaE9qjDkCtGsqb24M7dqTfVbs5FzDCbBp4BL11YX6b1e3
ROu051nMo=" />
<Rule Name="CollabVectorClockURI"
Value="https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acd
b6ffff05/CollabVectorClock/{ResourceID}" />
<Rule Name="SiteTitle" Value="<user_alias>" />
<Rule Name="LibraryTitle" Value="Documents" />
<Rule Name="TelemetryId" Value="wJBxr+Bqwxv9nQ2FVj95Y13x1nNy8Zz6BpVo9KyvFFU=" />
</PolicyDocument>

```

4.1.4 Getting Root Folder Information

4.1.4.1 Client Request

```

GET
https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6ffff0
5/RootFolder HTTP/1.1
Connection: Keep-Alive
Accept-Encoding: peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.131.0701.0002 ship; Windows NT 10.0 (15063)
Application: OneDriveSync
Scenario: StorageProvisioningScenario
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=<user_alias>;
X-RestrictedWriteCapabilities: Irm
X-TransactionId: c0cd3f16-1d82-401c-b506-04c1b4daae54StorageProvisioningScenario
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <server_url>

```

4.1.4.2 Server Response

```

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Text/Xml

```

Expires: Sun, 01 Jul 2018 19:55:34 GMT
Last-Modified: Mon, 16 Jul 2018 19:55:34 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-QuotaState: Normal
SPClientServiceRequestDuration: 108
SPRequestDuration: 120
X-AspNet-Version: 4.0.30319
SPRequestGuid: 666d7b9e-a9b8-b069-12e9-e01ab324b2be
request-id: 666d7b9e-a9b8-b069-12e9-e01ab324b2be
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10325; 1; RequireReadOnly
Date: Mon, 16 Jul 2018 19:55:33 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fdbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-07-10T21:34:35.0000000Z</DateModified>
<Path>/RootFolder</Path>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6ffff05</ParentResourceID>
<TotalSubItemSize>5494630</TotalSubItemSize>
<QuotaState>Normal</QuotaState>
<SpaceUsed>18125149</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>
```

4.1.5 Getting File/Folder Data

4.1.5.1 Client Request

GET
https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6ffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=500&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.131.0701.0002 ship; Windows NT 10.0 (15063)
Application: OneDriveSync
Scenario: StorageStartupChangeEnumerationScenario
X-EnumerationReason: 1
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=<user_alias>1;
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: 2
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: d2f02665-e637-4664-8e50-31c60514634bStorageStartupChangeEnumerationScenario

X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <server_url>

4.1.5.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Sun, 01 Jul 2018 19:55:41 GMT
Last-Modified: Mon, 16 Jul 2018 19:55:41 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: FullData
X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-
acdb6ffff05;636673676570600000;26124;%23;%23;%234
SPClientServiceRequestDuration: 77
SPRequestDuration: 105
X-AspNet-Version: 4.0.30319
SPRequestGuid: 686d7b9e-296c-b069-12e9-ea74ec042f1e
request-id: 686d7b9e-296c-b069-12e9-ea74ec042f1e
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10325; 1; RequireReadOnly
Date: Mon, 16 Jul 2018 19:55:40 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fdbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-07-10T21:34:35.0000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>f94adb0b6a924d678ede7b662c2761c3</ResourceID>
<ETag>"{F94ADB0B-6A92-4D67-8EDE-7B662C2761C3},1"</ETag>
<DateCreated>2018-07-10T17:02:01.0000000Z</DateCreated>
<DateModified>2018-07-10T17:02:01.0000000Z</DateModified>
<Path>/RootFolder/Shared with Everyone</Path>
<RelationshipName>Shared with Everyone</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ParentResourceID>
<fshttpstate.xschema.storage.live.com>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fshttpstate.xschema.storage.live.com>
<TotalSubItemSize>0</TotalSubItemSize>
</Folder>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>103c22e18d1c4b4d9faf686ed01bddb5</ResourceID>
<ETag>"{103C22E1-8D1C-4B4D-9FAF-686ED01BDDb5},4"</ETag>
<DateCreated>2018-07-10T18:32:34.0000000Z</DateCreated>
<DateModified>2018-07-10T18:32:33.0000000Z</DateModified>
```

```

<Path>/RootFolder/Testfolder</Path>
<Items>
<Document>
<ItemType>Document</ItemType>
<ResourceID>d2b54d1b1cd04b3e9d7c1661c73dba0c</ResourceID>
<ETag>"{D2B54D1B-1CD0-4B3E-9D7C-1661C73DBA0C},2" </ETag>
<DateCreated>2018-07-10T21:34:32.0000000Z</DateCreated>
<DateModified>2018-07-10T16:29:20.0000000Z</DateModified>
<Path>/RootFolder/Testfolder/AppXManifest.xml</Path>
<RelationshipName>AppXManifest.xml</RelationshipName>
<ParentResourceID>103c22e18d1c4b4d9faf686ed01bddb5</ParentResourceID>
<fsshtpstate.xschema.storage.live.com>
<Hash>/CpmlTh83VyyU7MvGMlyMrf5TY4= </Hash>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fsshtpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>58696b7f-4868-42ea-9688-7386daa6b5bf</Value>
</CustomIdentity>
</ModifierIdentity>
<DocumentStreams>
<DocumentStream>
<DocumentStreamName>Binary</DocumentStreamName>
<MimeType>text/xml</MimeType>
<DataSize>5494630</DataSize>
<PreAuthURL>https://<server_url>/personal/<user_alias>/_layouts/15/download.aspx?UniqueId=%
7Bd2b54d1b%2D1cd0%2D4b3e%2D9d7c%2D1661c73dba0c%7D&UserAgent=SkySync</PreAut
hURL>
<XORHash>/CpmlTh83VyyU7MvGMlyMrf5TY4= </XORHash>
<WriteValidationToken>/CpmlTh83VyyU7MvGMlyMrf5TY4= </WriteValidationToken>
</DocumentStream>
</DocumentStreams>
</Document>
</Items>
<RelationshipName>Testfolder</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ParentResourceID>
<fsshtpstate.xschema.storage.live.com>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fsshtpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>ef0580be-9492-42da-ba18-7075744ff7da</Value>
</CustomIdentity>
</ModifierIdentity>
<TotalSubItemSize>5494630</TotalSubItemSize>
</Folder>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>5d3bbf778e6f4a4dad89c2229233bb07</ResourceID>
<ETag>"{5D3BBF77-8E6F-4A4D-AD89-C2229233BB07},4" </ETag>
<DateCreated>2018-07-10T18:32:48.0000000Z</DateCreated>
<DateModified>2018-07-10T18:32:46.0000000Z</DateModified>
<Path>/RootFolder/Testfolder2</Path>
<RelationshipName>Testfolder2</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ParentResourceID>
<fsshtpstate.xschema.storage.live.com>

```

```

<VersionToken>KgNhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fsshttpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>ef0580be-9492-42da-ba18-7075744ff7da</Value>
</CustomIdentity>
</ModifierIdentity>
<TotalSubItemSize>0</TotalSubItemSize>
</Folder>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>fd888fe1020a40418b1d649a72514bcf</ResourceID>
<ETag>"{FD888FE1-020A-4041-8B1D-649A72514BCF},2"</ETag>
<DateCreated>2018-07-10T19:25:30.0000000Z</DateCreated>
<DateModified>2018-07-10T19:24:38.0000000Z</DateModified>
<Path>/RootFolder/OneDrive - Microsoft</Path>
<RelationshipName>OneDrive - Microsoft</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fddbfa0</ParentResourceID>
<fsshttpstate.xschema.storage.live.com>
<VersionToken>KgNhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fsshttpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>0840bd32-ea71-4911-9fef-25098cccc466</Value>
</CustomIdentity>
</ModifierIdentity>
<TotalSubItemSize>0</TotalSubItemSize>
</Folder>
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6fffff05</ParentResourceID>
<QuotaState>Normal</QuotaState>
<SpaceUsed>18125149</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>

```

4.2 Adding a file to the scope of the file share

4.2.1 Client Request

```

GET
https://<sync_site_url>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699580792830000;58169;%23;%23;%234&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.139.0711.0001 debug; Windows NT 10.0 (17134)
Application: OneDriveSync
Scenario: StorageChangeEnumerationScenario
X-EnumerationReason: 65536
X-GeoMoveOptions: HttpRedirection

```

X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestDigest:
0x10AAC7970CFA50BFBB11040622D141717251207A9F6AF7AD68C91A239FEF9718F26AEEE930A306
64BF313463ED26FE59CDF13F10CB85E24A664792DB8F93A898,15 Aug 2018 19:25:13 -0000
X-RequestStats: btuc=11060;did=5b77f027-7d0d-9974-6c89-
d8c6d08d911a;ftuc=1;mn=<useralias>1;
X-ResponseStructure: Flat
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: a
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: d06b0acc-836e-40d9-a122-54964b357672StorageChangeEnumerationScenario
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <sync_site_url>

4.2.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Tue, 31 Jul 2018 19:28:27 GMT
Last-Modified: Wed, 15 Aug 2018 19:28:27 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: IncrementalChanges
X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-
acdb6ffff05;636699581074230000;58171;%23;%23;%234
SPClientServiceRequestDuration: 203
SPRequestDuration: 214
X-AspNet-Version: 4.0.30319
SPRequestGuid: c613859e-792a-b069-12e9-ee4f82a7df2f
request-id: c613859e-792a-b069-12e9-ee4f82a7df2f
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10331: 1; RequireReadOnly
Date: Wed, 15 Aug 2018 19:28:27 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fddbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fddbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-08-15T19:28:27.0000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Document>
<ItemType>Document</ItemType>
<ResourceID>4f7967954615409eb8de64aaa31e4e7e</ResourceID>
<ETag>"{4F796795-4615-409E-B8DE-64AAA31E4E7E},2"</ETag>
<DateCreated>2018-08-09T00:11:07.0000000Z</DateCreated>
<DateModified>2018-08-07T22:03:44.0000000Z</DateModified>
<Path>/RootFolder/Document1.docx</Path>
```

```

<RelationshipName>Document1.docx</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ParentResourceID>
<fsshtpstate.xschema.storage.live.com>
<Hash>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</Hash>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fsshtpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>e3ef9d74-9186-42ba-9fd1-b5450e6b7235</Value>
</CustomIdentity>
</ModifierIdentity>
<DocumentStreams>
<DocumentStream>
<DocumentStreamName>Binary</DocumentStreamName>
<MimeType>application/vnd.openxmlformats-
officedocument.wordprocessingml.document</MimeType>
<DataSize>11060</DataSize>
<PreAuthURL>https://<sync_site_url>/personal/<useralias>/_layouts/15/download.aspx?UniqueId=
%7B4f796795%2D4615%2D409e%2Db8de%2D64aaa31e4e7e%7D&amp;UserAgent=SkySync</PreA
uthURL>
<XORHash>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</XORHash>
<WriteValidationToken>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</WriteValidationToken>
</DocumentStream>
</DocumentStreams>
</Document>
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6ffff05</ParentResourceID>
<QuotaState>Normal</QuotaState>
<SpaceUsed>7304813</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>

```

4.3 Deleting a file from the file share

4.3.1 Client Request

```

GET
https://<sync_site_url>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6ffff
05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;b
e100e28-dd1c-4f2f-8e83-
acdb6ffff05;636699579579600000;58167;%23;%23;%234&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.139.0711.0001 debug; Windows NT 10.0 (17134)
Application: OneDriveSync
Scenario: StorageChangeEnumerationScenario
X-EnumerationReason: 16
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestDigest:
0x10AAC7970CFA50BFBB11040622D141717251207A9F6AF7AD68C91A239FEF9718F26AEEE930A306

```


64BF313463ED26FE59CDF13F10CB85E24A664792DB8F93A898,15 Aug 2018 19:25:13 -0000
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=<useralias>1;
X-ResponseStructure: Flat
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: a
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: 446945cc-f831-49fb-a8c9-5186e87ec554StorageChangeEnumerationScenario
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <sync_site_url>

4.3.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Tue, 31 Jul 2018 19:26:16 GMT
Last-Modified: Wed, 15 Aug 2018 19:26:16 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: IncrementalChanges
X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6ffff05;636699579765370000;58168;%23;%23;%234
SPClientServiceRequestDuration: 62
SPRequestDuration: 69
X-AspNet-Version: 4.0.30319
SPRequestGuid: a613859e-2926-b069-7de0-4fe9f98273e8
request-id: a613859e-2926-b069-7de0-4fe9f98273e8
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10331: 1; RequireReadOnly
Date: Wed, 15 Aug 2018 19:26:16 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fddbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fddbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-08-15T19:26:17.0000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Document>
<IsDeleted>True</IsDeleted>
<ItemType>Document</ItemType>
<ResourceID>e837ab1ce8e245e98f5353bd32e16ba8</ResourceID>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fddbfa0</ParentResourceID>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>e3ef9d74-9186-42ba-9fd1-b5450e6b7235</Value>
</CustomIdentity>
</ModifierIdentity>
</Document>
```

```
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6ffff05</ParentResourceID>
<QuotaState>Normal</QuotaState>
<SpaceUsed>7293104</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>
```

4.4 Moving a file inside the scope of the file share

4.4.1 Client Request

```
GET
https://<sync_site_url>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6ffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;b
e100e28-dd1c-4f2f-8e83-
acdb6ffff05;636699579166800000;58161;%23;%23;%234&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.139.0711.0001 debug; Windows NT 10.0 (17134)
Application: OneDriveSync
Scenario: StorageChangeEnumerationScenario
X-EnumerationReason: 16
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestDigest:
0x10AAC7970CFA50BFBB11040622D141717251207A9F6AF7AD68C91A239FEF9718F26AEEE930A306
64BF313463ED26FE59CDF13F10CB85E24A664792DB8F93A898,15 Aug 2018 19:25:13 -0000
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=<useralias>1;
X-ResponseStructure: Flat
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: a
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: 81ecf1f7-c78a-4ff4-9a70-af5a2de5e0ecStorageChangeEnumerationScenario
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <sync_site_url>
```

4.4.2 Server Response

```
HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Tue, 31 Jul 2018 19:25:39 GMT
Last-Modified: Wed, 15 Aug 2018 19:25:39 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: IncrementalChanges
```

X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-
acdb6ffff05;636699579388970000;58164;%23;%23;%234
SPClientServiceRequestDuration: 70
SPRequestDuration: 77
X-AspNet-Version: 4.0.30319
SPRequestGuid: 9c13859e-99fa-b069-7de0-419eb46bac6a
request-id: 9c13859e-99fa-b069-7de0-419eb46bac6a
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10331: 1; RequireReadOnly
Date: Wed, 15 Aug 2018 19:25:38 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fdbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-08-15T19:25:39.0000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Document>
<ItemType>Document</ItemType>
<ResourceID>e837ab1ce8e245e98f5353bd32e16ba8</ResourceID>
<ETag>"{E837AB1C-E8E2-45E9-8F53-53BD32E16BA8},8"</ETag>
<DateCreated>2018-08-07T23:53:12.0000000Z</DateCreated>
<DateModified>2018-08-07T22:03:45.0000000Z</DateModified>
<Path>/RootFolder/sdafasdfawe.docx</Path>
<RelationshipName>sdafasdfawe.docx</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ParentResourceID>
<fshttpstate.xschema.storage.live.com>
<Hash>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</Hash>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fshttpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>e3ef9d74-9186-42ba-9fd1-b5450e6b7235</Value>
</CustomIdentity>
</ModifierIdentity>
<DocumentStreams>
<DocumentStream>
<DocumentStreamName>Binary</DocumentStreamName>
<MimeType>application/vnd.openxmlformats-
officedocument.wordprocessingml.document</MimeType>
<DataSize>11060</DataSize>
<PreAuthURL>https://sp-
my.office.com/personal/<useralias>/_layouts/15/download.aspx?UniqueId=%7Be837ab1c%2De8e2%
2D45e9%2D8f53%2D53bd32e16ba8%7D&UserAgent=SkySync</PreAuthURL>
<XORHash>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</XORHash>
<WriteValidationToken>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</WriteValidationToken>
</DocumentStream>
</DocumentStreams>
</Document>
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6ffff05</ParentResourceID>
```

<QuotaState>Normal</QuotaState>
<SpaceUsed>7293104</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>

4.5 Renaming a file

4.5.1 Client Request

GET
https://<sync_site_url>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699579388970000;58164;%23;%23;%234&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.139.0711.0001 debug; Windows NT 10.0 (17134)
Application: OneDriveSync
Scenario: StorageChangeEnumerationScenario
X-EnumerationReason: 16
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestDigest:
0x10AAC7970CFA50BFBB11040622D141717251207A9F6AF7AD68C91A239FEF9718F26AEEE930A30664BF313463ED26FE59CDF13F10CB85E24A664792DB8F93A898,15 Aug 2018 19:25:13 -0000
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=<useralias>1;
X-ResponseStructure: Flat
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: a
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: a6f20ed4-9127-45cc-801c-77fe772367f6StorageChangeEnumerationScenario
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <sync_site_url>

4.5.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Tue, 31 Jul 2018 19:25:58 GMT
Last-Modified: Wed, 15 Aug 2018 19:25:58 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: IncrementalChanges
X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699579579600000;58167;%23;%23;%234

SPClientServiceRequestDuration: 79
SPRequestDuration: 86
X-AspNet-Version: 4.0.30319
SPRequestGuid: a113859e-59a0-b069-7de0-40b2597671df
request-id: a113859e-59a0-b069-7de0-40b2597671df
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10331: 1; RequireReadOnly
Date: Wed, 15 Aug 2018 19:25:57 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fdbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.000000Z</DateCreated>
<DateModified>2018-08-15T19:25:58.000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Document>
<ItemType>Document</ItemType>
<ResourceID>e837ab1ce8e245e98f5353bd32e16ba8</ResourceID>
<ETag>"{E837AB1C-E8E2-45E9-8F53-53BD32E16BA8},11"</ETag>
<DateCreated>2018-08-07T23:53:12.000000Z</DateCreated>
<DateModified>2018-08-07T22:03:45.000000Z</DateModified>
<Path>/RootFolder/xcfgbzdsfv.docx</Path>
<RelationshipName>xcfgbzdsfv.docx</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbfa0</ParentResourceID>
<fsshttpstate.xschema.storage.live.com>
<Hash>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</Hash>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAADAAAA</VersionToken>
</fsshttpstate.xschema.storage.live.com>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>e3ef9d74-9186-42ba-9fd1-b5450e6b7235</Value>
</CustomIdentity>
</ModifierIdentity>
<DocumentStreams>
<DocumentStream>
<DocumentStreamName>Binary</DocumentStreamName>
<MimeType>application/vnd.openxmlformats-officedocument.wordprocessingml.document</MimeType>
<DataSize>11060</DataSize>
<PreAuthURL>https://sp-my.office.com/personal/<useralias>/_layouts/15/download.aspx?UniqueId=%7Be837ab1c%2De8e2%2D45e9%2D8f53%2D53bd32e16ba8%7D&UserAgent=SkySync</PreAuthURL>
<XORHash>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</XORHash>
<WriteValidationToken>gzQZ4BqOp7uIMC7P5MhioA6NYIs=</WriteValidationToken>
</DocumentStream>
</DocumentStreams>
</Document>
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6ffff05</ParentResourceID>
<QuotaState>Normal</QuotaState>
<SpaceUsed>7293104</SpaceUsed>
```

<SpaceGranted>109951162777600</SpaceGranted>
</Folder>

4.6 Moving a file outside the scope of the sync folder

4.6.1 Client Request

GET
https://<sync_site_url>/personal/<useralias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699581074230000;58171;%23;%23;%234&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.139.0711.0001 debug; Windows NT 10.0 (17134)
Application: OneDriveSync
Scenario: StorageChangeEnumerationScenario
X-EnumerationReason: 16
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestDigest:
0x10AAC7970CFA50BFBB11040622D141717251207A9F6AF7AD68C91A239FEF9718F26AEEE930A30664BF313463ED26FE59CDF13F10CB85E24A664792DB8F93A898,15 Aug 2018 19:25:13 -0000
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=<useralias>;
X-ResponseStructure: Flat
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: a
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: ae5aaddf-ae0f-4b09-bf04-d83770fd535dStorageChangeEnumerationScenario
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <sync_site_url>

4.6.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Tue, 31 Jul 2018 19:29:18 GMT
Last-Modified: Wed, 15 Aug 2018 19:29:18 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: IncrementalChanges
X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636699581579070000;58172;%23;%23;%234
SPClientServiceRequestDuration: 64
SPRequestDuration: 77
X-AspNet-Version: 4.0.30319
SPRequestGuid: d213859e-b96c-b069-12e9-e7afa1b167f4

request-id: d213859e-b96c-b069-12e9-e7afa1b167f4
X-FRAME-OPTIONS: SAMEORIGIN
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10331: 1; RequireReadOnly
Date: Wed, 15 Aug 2018 19:29:17 GMT

```
<?xml version="1.0" encoding="utf-8"?>
<Folder>
<ItemType>Folder</ItemType>
<ResourceID>eb99ad0e96e64d1fb3547dff4fddbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fddbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-08-15T19:29:18.0000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Document>
<IsDeleted>True</IsDeleted>
<ItemType>Document</ItemType>
<ResourceID>4f7967954615409eb8de64aaa31e4e7e</ResourceID>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fddbfa0</ParentResourceID>
<ModifierIdentity>
<CustomIdentity>
<Name>SkyDriveSync</Name>
<Value>e3ef9d74-9186-42ba-9fd1-b5450e6b7235</Value>
</CustomIdentity>
</ModifierIdentity>
</Document>
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6fffff05</ParentResourceID>
<QuotaState>Normal</QuotaState>
<SpaceUsed>7304813</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>
```

4.7 Updating File Contents

4.7.1 Client Request

GET
https://<server_url>/personal/<user_alias>/_api/SPFileSync/sync/be100e28dd1c4f2f8e83acdb6fffff05/RootFolder?Filter=changes&InlineBlobs=false&MaxItemCount=50&SyncToken=3;%234;%231;3;be100e28-dd1c-4f2f-8e83-acdb6fffff05;636693593555070000;44657;%23;%23;%234&View=SkyDriveSync HTTP/1.1
Connection: Keep-Alive
Accept: application/web3s+xml
Accept-Encoding: gzip, peerdist
Accept-Language: en-US
Cookie:
User-Agent: Microsoft SkyDriveSync 18.139.0711.0001 debug; Windows NT 10.0 (17134)
Application: OneDriveSync
Scenario: StorageWNSNotificationChangeEnumerationScenario
X-EnumerationReason: 2
X-GeoMoveOptions: HttpRedirection
X-MachineDomainInfo: {F488EF59-EEEE-11D2-A5DA-00805F9F21F5}
X-MachineId: 3c74e7fe-93e2-4f83-8380-4e540517617a
X-RequestDigest:

0xFE2A2678E2BBEAD60F76A2B221D9768029BC94E3F4139E407A26B3B10CD0F8D2DACBEABDAB778
5DD0725D6053A0BDAE7B1591C391E94C89209D3A7B54EF9516E,08 Aug 2018 21:09:15 -0000
X-RequestStats: btuc=0;did=5b77f027-7d0d-9974-6c89-d8c6d08d911a;ftuc=0;mn=v-josmil1;
X-ResponseStructure: Flat
X-RestrictedWriteCapabilities: Irm
X-SyncFeatures: a
X-SyncOptions: HierarchicalKnowledge
X-TransactionId: 41794ac7-b72a-46b9-97f0-
6fe86856bc0eStorageWNSNotificationChangeEnumerationScenario
X-WNSDiagnostics: 1,7c7d4c12-e73c-4be8-9e15-d9cff4a22675,dcd8829e-7946-b069-7de0-
4071805f7468,7
X-P2P-PeerDist: Version=1.1
X-P2P-PeerDistEx: MinContentInformation=1.0, MaxContentInformation=2.0
Host: <server_url>
Authorization: NTLM
TIRMTVNTUAADAAAAGAAAYAIgAAAAAAGACoAAAAA4ADgBYAAAAEAAQAGYAAAAASABIAdgAAAAAAACgA
gAABYKIogoA7kIAAAAP2JEUy3FKQBa63I4VKA7hblIARQBEAE0ATwBOAEQAdgAtAGoAbwBzAG0AaQBsAF
YALQBKAE8AUwBNAEKATAAxAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAMqL+KeaLsHu6GoInnfwjQsB
AQAAAAAAM1Hu1Fcl9QBxhIHvyO9hbcCtk5/AgASAE8ARgBGAEkAQwBFAEQATwBHAAEAHAA5ADkANw
BDAC0AQgBOADMALQBQAEYARQAwADMABABKAG8AZgBmAGkAYwBIAGQAbwBnAC4AcwBIAGwAZgBoA
G8AcwB0AC4AYwBvAHIACAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4AYwBvAG0AAwBoADkAOQA3AEMALQ
BCAE4AMwAtAFAARgBFADAAMwAuAG8AZgBmAGkAYwBIAGQAbwBnAC4AcwBIAGwAZgBoAG8AcwB0AC
4AYwBvAHIACAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4AYwBvAG0ABQBKAG8AZgBmAGkAYwBIAGQAbwB
nAC4AcwBIAGwAZgBoAG8AcwB0AC4AYwBvAHIACAAuAG0AaQBjAHIAbwBzAG8AZgB0AC4AYwBvAG0AB
wAIAM1Hu1Fcl9QBxhIHvyO9hbcCtk5/AgASAE8ARgBGAEkAQwBFAEQATwBHAAEAHAA5ADkANw
2yy/szb823jggESqCgAQABwCw/1STvycYrU5eIW0MYJACoASABUAFQAUAAvAHMAcAAAtAG0AeQAuAG8AZ
gBmAGkAYwBIAC4AYwBvAG0AAAAAAAAAAACBBtgE

4.7.2 Server Response

HTTP/1.1 200 OK
Cache-Control: private, max-age=0
Transfer-Encoding: chunked
Content-Type: Application/Web3s+xml
Expires: Tue, 24 Jul 2018 21:11:06 GMT
Last-Modified: Wed, 08 Aug 2018 21:11:06 GMT
Server: Microsoft-IIS/10.0
X-SharePointHealthScore: 0
X-SP-SERVERSTATE: ReadOnly=0
X-SyncStatus: IncrementalChanges
X-QuotaState: Normal
X-SyncToken: 3;%234;%231;3;be100e28-dd1c-4f2f-8e83-
acdb6ffff05;636693594626730000;44658;%23;%23;%234
SPClientServiceRequestDuration: 69
SPRequestDuration: 169
X-AspNet-Version: 4.0.30319
SPRequestGuid: ddd8829e-597c-b069-7de0-4f35fc147dc3
request-id: ddd8829e-597c-b069-7de0-4f35fc147dc3
X-FRAME-OPTIONS: SAMEORIGIN
Persistent-Auth: true
X-Powered-By: nosniff
MicrosoftSharePointTeamServices: 16.0.0.10331: 1; RequireReadOnly
Date: Wed, 08 Aug 2018 21:11:06 GMT

```
<?xml version="1.0" encoding="utf-8"?>  
<Folder>  
<ItemType>Folder</ItemType>
```



```
<ResourceID>eb99ad0e96e64d1fb3547dff4fdbbfa0</ResourceID>
<ETag>eb99ad0e96e64d1fb3547dff4fdbbfa0</ETag>
<DateCreated>2018-06-05T06:41:43.0000000Z</DateCreated>
<DateModified>2018-08-08T21:11:03.0000000Z</DateModified>
<Path>/RootFolder</Path>
<Items>
<Document>
<ItemType>Document</ItemType>
<ResourceID>d81edff30a944eb4a948835569237fca</ResourceID>
<ETag>"{D81EDFF3-0A94-4EB4-A948-835569237FCA},10" </ETag>
<DateCreated>2018-08-07T22:02:53.0000000Z</DateCreated>
<DateModified>2018-08-08T21:11:01.0000000Z</DateModified>
<Path>/RootFolder/foo.docx</Path>
<RelationshipName>foo.docx</RelationshipName>
<ParentResourceID>eb99ad0e96e64d1fb3547dff4fdbbfa0</ParentResourceID>
<fsshttpstate.xschema.storage.live.com>
<Hash>EtMPxIRIX8IedoGkAUB1ww88QQY=</Hash>
<VersionToken>KgnhZnsBN0y8qh354QbmegUkAAUJRAAHAAAA</VersionToken>
</fsshttpstate.xschema.storage.live.com>
<DocumentStreams>
<DocumentStream>
<DocumentStreamName>Binary</DocumentStreamName>
<MimeType>application/vnd.openxmlformats-officedocument.wordprocessingml.document</MimeType>
<DataSize>11756</DataSize>
<PreAuthURL>https://<server_url>/personal/<user_alias>/_layouts/15/download.aspx?UniqueId=%7Bd81edff3%2D0a94%2D4eb4%2Da948%2D835569237fca%7D&UserAgent=SkySync</PreAuthURL>
<XORHash>EtMPxIRIX8IedoGkAUB1ww88QQY=</XORHash>
<WriteValidationToken>EtMPxIRIX8IedoGkAUB1ww88QQY=</WriteValidationToken>
</DocumentStream>
</DocumentStreams>
</Document>
</Items>
<RelationshipName>RootFolder</RelationshipName>
<ParentResourceID>be100e28dd1c4f2f8e83acdb6ffff05</ParentResourceID>
<QuotaState>Normal</QuotaState>
<SpaceUsed>18270508</SpaceUsed>
<SpaceGranted>109951162777600</SpaceGranted>
</Folder>
```

5 Security

5.1 Security Considerations for Implementers

There are no security considerations that are specific to this protocol. General security considerations pertaining to [\[RFC2822\]](#) apply.

This protocol does not introduce any additional security considerations beyond those that apply to its underlying protocols.

5.2 Index of Security Parameters

None.

6 Appendix A: Full XML Schema

None.

7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include updates to those products.

- Microsoft SharePoint Server 2019

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates 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.

8 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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