

OTM Repository Gateway Specification

DRAFT

The preservation Gateway functions as an aggregating cache for preservation requests originating with a repository and destined for a DDP via the [OTM Bridge](#). This allows repositories to *synchronously* send content preservation in an *asynchronous* deep archive.

Repository Gateway API

GET / (service description)

Description

Retrieve a description of this Gateway, including the api version, and the available storage classes.

Requests/Responses

- Request: GET / HTTP/1.1
- Request Body: n/a
- Request Headers:
 - Accept
- Response Codes:
 - 200 OK
- Response Body:

JSON response body

```
{
  api_version: 0.1
  storage_classes: [{
    name: ddp1_name
  },
  {
    name: ddp2_name
  }]
}
```

PUT Object (deposit)

Description

Create or update a gateway object for preservation of an Object from the repository.

Requests/Responses

- Request: PUT /ObjectId HTTP/1.1
- Request Body: Compressed Bag
- Request Headers:
 - Content-Type
 - Content-Length
 - `x-duraspace-storage-class` (DDP target(s) for preservation)
- Response Codes:
 - 201 Created (on success)
 - 200 OK (on success; update)
- Response Headers:
 - ETag

Examples

[Create an Object](#)

Request

```
PUT /af48c3d HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:15:00 GMT
Content-Type: application/zip
Content-Length: 493285
Content-MD5: 4efcb3d98ce0fabfd585eb6c4332859
```

[493285 bytes of object data]

Response

```
HTTP/1.1 201 Created
Date: Tue, 02 Jul 2019 20:15:00 GMT
ETag: "4efcb3d98ce0fabfd585eb6c4332859"
Content-Length: 0
Server: OTM Preservation Gateway
```

Question

 Holy Bags? For large file deposit.

- i don't want to push this content over the network and/or
 - i don't want to store it on a Gateway accessible disk
- Write up something about ObjectID semantics and repository reconstruction.

GET Object Audit

Description

Retrieve audit metadata for the object.

Requests/Responses

- Request: GET /ObjectId/audit HTTP/1.1
- Request Body: n/a
- Response Code: 200 OK
- Response Body:

JSON response body

```
{
  ddp_name: {
    preserved: true
    destroy_requested: true
  }
}
```

DELETE Object (destroy)

Description

Request removal of an Object and all its contents from the archive

Requests/Responses

- Request: DELETE /ObjectId HTTP/1.1
- Request Body: n/a
- Response Codes:
 - 204 No Content

Examples

Destroy an Object

Request

```
DELETE /af48c3d HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:25:00 GMT
Content-Type: text/plain
```

Response

```
HTTP/1.1 204 NoContent
Date: Tue, 02 Jul 2019 20:25:00 GMT
Content-Length: 0
Server: OTM Preservation Gateway
```

POST Object Restore

Description

Request restore of a Bag Object and all its contents for later retrieval

Requests/Responses

- Request: POST /ObjectId?restore HTTP/1.1
- Request Body: n/a
- Response Code:
 - 202 Accepted (if the object is not already restored)
 - 200 OK (if the object is already restored and available for retrieval)

Examples

Restore an Object

Request

```
POST /af48c3d?restore HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Length: 0
```

Response

```
HTTP/1.1 202 Accepted
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Length: 0
Server: OTM Preservation Gateway
```

Requesting a Restore on an Object that is Available

Request

```
POST /af48c3d?restore HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Length: 0
```

Response

```
HTTP/1.1 200 OK
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Length: 0
Server: OTM Preservation Gateway
```

ERROR: Restore Already in Progress

Request

```
POST /af48c3d?restore HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Length: 0
```

Response

```
HTTP/1.1 409 Conflict
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Type: application/xml
Server: OTM Preservation Gateway
<?xml version="1.0" encoding="UTF-8"?>
<Error>
  <Code>RestoreAlreadyInProgress</Code>
  <Message>Object restore is already in progress.</Message>
  <Resource>/af48c3d</Resource>
</Error>
```

Response

```
HTTP/1.1 409 Conflict
Date: Tue, 02 Jul 2019 20:35:00 GMT
Content-Type: application/xml
Server: OTM Preservation Gateway

<?xml version="1.0" encoding="UTF-8"?>
<Error>
  <Code>RestoreAlreadyInProgress</Code>
  <Message>Object restore is already in progress.</Message>
  <Resource>/af48c3d</Resource>
</Error>
```

Question



Can HTTP Range requests be used to retrieve individual files (e.g. metadata)

GET Object (retrieve)

Description

Retrieve a restored object.

Requests/Responses

- Request: GET /ObjectId HTTP/1.1
- Request Body: n/a
- Request Headers
 - If-Match
 - If-None-Match
 - Accept ?
- Response Code:
 - 200 OK (if the object is available)
 - 403 Forbidden (if the object has not been restored)
 - 412 PreconditionFailed
- Response Body: Compressed bag
- Response Headers:
 - Content-Type
 - ETag

Examples

Retrieve an Object

Request

```
GET /af48c3d HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:45:00 GMT
Content-Length: 0
```

Response

```
HTTP/1.1 200 OK
Date: Tue, 02 Jul 2019 20:45:00 GMT
ETag: "4efcb3d98ce0fabfd585eb6c4332859"
Content-Length: 493285
Content-Type: application/zip
Server: OTM Preservation Gateway

[493285 bytes of object data]
```

ERROR: Retrieval of an Unavailable Object

Request

```
GET /af48c3d HTTP/1.1
Host: preservation-gateway.institution.edu
Date: Tue, 02 Jul 2019 20:45:00 GMT
Content-Length: 0
```

Response

```
HTTP/1.1 403 Forbidden
Date: Tue, 02 Jul 2019 20:45:00 GMT
ETag: "4efcb3d98ce0fabfd585eb6c4332859"
Content-Type: application/xml
Server: OTM Preservation Gateway

<?xml version="1.0" encoding="UTF-8"?>
<Error>
  <Code>InvalidObjectState</Code>
  <Message>The Object is not available </Message>
  <Resource>/af48c3d</Resource>
</Error>
```

Question



Can HTTP Range requests be used to retrieve individual files (e.g. metadata)

Authentication

Repository Client Authorization

Authentication with the OTM Bridge

Bridge Interactions

GET File (transfer)

Description

Transfer a cached file. This endpoint allows a Bridge to pull content for storage in a preservation service.

Requests/Responses

- Request: GET /ObjectId/fileName HTTP/1.1
- Request Headers
 - If-Match (checksum)
- Response Code:
 - 200 OK (if the file is available)
 - 404 NotFound (if the file is not present)
 - 412 PreconditionFailed (if no version of the file is present matching the If-Match checksum)
- Response Body: file contents
- Response Headers:
 - Content-Type
 - ETag