Vidispine REST API Documentation

Release 4.2.2

Vidispine AB

September 30, 2015

The Vidispine REST API is a rich interface for creating custom media management solutions for the most complex requirements.

This documentation is available as PDF here. The documentation comes with its own searching functionality, in the upper left corner.

This reference documentation is divided into the following sections. Each section starts with an overview and is then followed by introductory guides. The API reference section at the end explains the API and resources in detail.

CHAPTER

ONE

INTRODUCTION AND DATA MODEL

1.1 Entities in Vidispine

Before start playing with the API, a short introduction to the data model might be valuable. The figure *Overview of the entities in Vidispine* shows some of the entities that builds the assets in Vidispine.

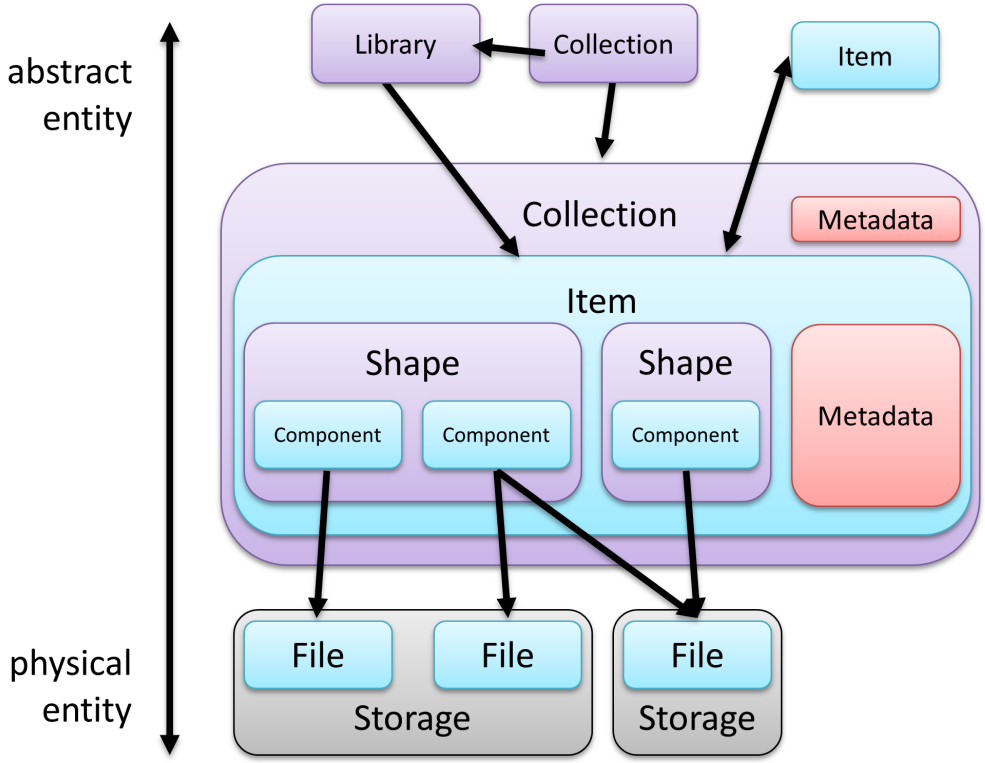
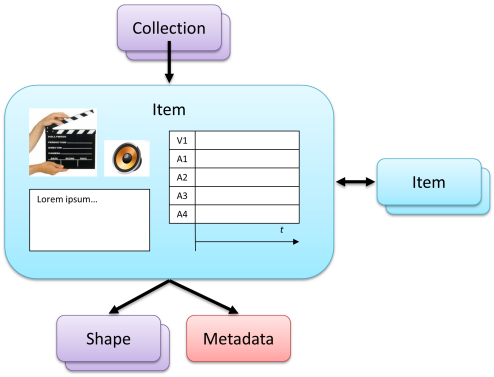


Figure 1.1: Overview of the entities in Vidispine

1.1.1 Item

The item is the central piece in the data model. This corresponds to an *asset* in other systems. The item is an abstraction of the physical content (*essence*) and holds information about the content (*metadata*). For information about how to

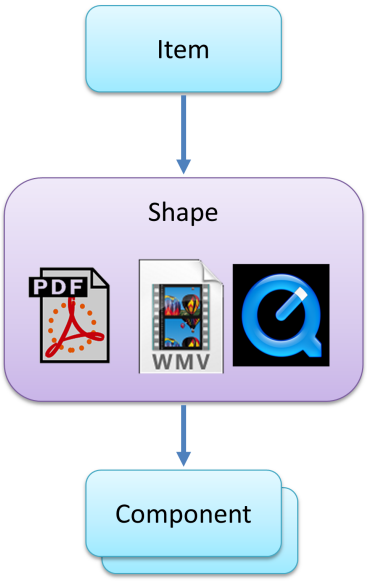
create items, see *Imports*.



Other entities, further down in the hierarchy, may also hold metadata. The item has the richest functions for how metadata can be stored, searched, and indexed. For information about metadata on an item, see *Item metadata*.

The item also holds information about which users that are allowed to read and modify information (*access control*). For information about access control, see *Access control for items, libraries, collections*.

1.1.2 Shape



A shape is a physical rendition of an item.

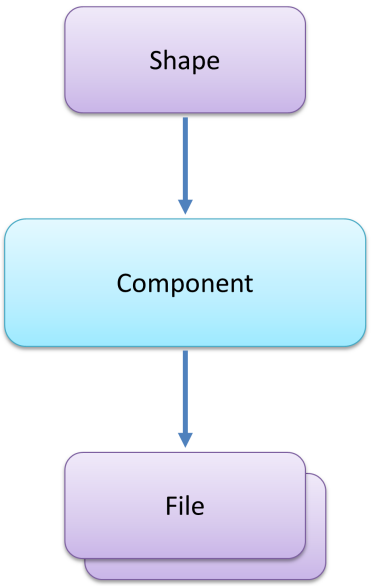
- For a video, it can be a low-resolution editing version, a web version, ...
- For a document, it can the the pages as images, extracted text, ...
- Etc.

For information about shapes, see *Item shapes*.

A shape can have one or several shape tags. The shape tags are used when Vidispine selects which files that are being transcoder, exported, thumbnailed, etc. A special shape tag is `original`, a shape tag that the imported source file

gets. The shape tag also contains the recipe for how to create new shapes using the transcoder. For information about shape tags, see *Shape tags and presets*.

1.1.3 Component



Each shape has one or more components. A media shape might for example contain:

- A container component
- Video components
- Audio components

Each component corresponds to one file content. There may be several copies of the file however.

The component contains information (*technical metadata*) about codes, resolution, frame rate and more. For information about components, see *Item shapes*.

1.1.4 File and storage

The file entity represents a physical file on a file system. The file is stored on a storage. Vidispine manages all files, and knows which copies of a file that have been made, and how they relate.

For information about files and storages, see *Storages*.

1.1.5 Library

A library is a list of items. A library can be created manually, by adding the items to a library, or dynamically, by adding search results to a library. Libraries are useful when performing batch operations. Libraries can also be used when creating *rules*.

For information about libraries, see *Libraries*.

1.1.6 Collection

A collection is a list of items, libraries, and/or collections. Collections may have metadata and access rights, which are applied to the items that belong to the collection. While the library is typically created from a search operation, the collection is often used like a file system folder, to organize items.

For information about collections, see *Collections*.

1.2 RESTful API

The Vidispine API is a REST API (http://en.wikipedia.org/wiki/Representational_State_Transfer), using HTTP as a transfer protocol.

1.2.1 Some basics in the RESTful API

URI

The URI is used as a resource (noun). This means each entity in Vidispine has its own (base) URI. Example:

- `/API/item` - All items
- `/API/item/VX-204` - A particular item
- `/API/item/VX-204/shape` - All shapes for a particular item
- `/API/item/VX-204/shape/VX-576` - A particular shape for a particular item

Method

The HTTP method is used as a verb. The verb is used to specify whether to Create (POST), Read (GET), Update (PUT) or Delete (DELETE) an entity. This is called CRUD (http://en.wikipedia.org/wiki/Create,_read,_update_and_delete).

GET

- Get list of items/jobs or storage definition etc.
- Does not change anything to the database.

POST

- Start jobs, create new collection, etc.
- Will create one or more new entities in the database.

PUT

- Update existing entity, create new entity with supplied id.
- Identical sequential requests will not create new entities.

DELETE

- Delete items, abort jobs, etc.
- Identical sequential requests will not change anything (fails gracefully on subsequent requests).

Media type

Media types are important. To specify which media type the *request* has, HTTP header `Content-type` is used. To specify which media type the caller accepts as response, HTTP header `Accept` is used. Most methods in Vidispine read XML (`application/xml`) or JSON (`application/json`) and write XML or JSON. Some methods reads and/or writes text (`text/plain`), though.

Parameters

Parameters are given as *query* parameters, *matrix* parameters, or *header* parameters.

Query parameters

Given at the end of the URI. The query parameters follows after a question mark (`?`), and each query parameter key/value pair is delimited by an ampersand (`&`). An equal sign = is used to separate key and value. Keys and values have to be URL encoded.

Matrix parameters

Matrix parameters are be applied to the *segments* of the path of the URI. The are used to discriminate or modify the result. Before each matrix parameter key/value pair there should be a semicolon (`;`). Equal signs are used to separate key and value, and they have to be URL encoded.

In Vidispine, most of the times, the matrix parameters should be applied to the last segment, but before any query parameters.

Header parameters

Header parameters are given in addition to the URI. The `Content-type` and `Accept` headers have already been mentioned. Other header worth mentioning is the `RunAs` header used for authentication (*Run-As option*), and the `index` and `size` header, used at import (*Import using the request body*).

1.3 Common elements in the API

1.3.1 Identifiers

Most entities in Vidispine are identified by a `Site ID`. A Site ID is a string of the form: { *site* } – { *serial* } (example: `ATL-3033`). Note that a Site ID is not unique within the system, there could be both an item and a job with the Site ID `VX-195`, thus Site IDs are only unique within the entity type.

See also *External identifiers*.

Note:

- **site** is by the following regular expression form: `[_A-Za-z][_A-Za-z0-9]*`. The default site name is `VX`. This can be overridden with the Java system property `com.vidispine.site`.
- **serial** is of the following regular expression form: `[1-9][0-9]*`
- **site** is maximum 10 characters, and case sensitive

Long identifiers

In order to avoid confusion with non unique identifiers, it is possible to have Site IDs displayed as `ITEM-VX-1`, `JOB-VX-1`, `STORAGE-VX-3`, etc. To do this, add the *Java system property* `vidispine.identifier.format` with the value `full`. After this is done, a *re-index* of items and collections should be started. Now identifiers presented in the system will be of the form described above.

1.3.2 Boolean operators

XML elements to handle boolean expressions:

or

```
<or>
  <matching expression />
  ...
</or>
```

and

```
<and>
  <matching expression />
  ...
</and>
```

not

```
<not>
  <matching expression />
</not>
```

1.3.3 Text/plain formatting

CR LF

CRLF is used in *text/plain* representation when several values are returned, such as tuples or lists. CRLF is represented by the two bytes `0d 0a` in hexadecimal notation.

Tabbed tuples

Tabbed tuples are used in *text/plain* representation when several values are returned, such as tuples or lists. Tabbed tuples delimits each value by the tab character, 09 in hexadecimal notation. Together with *CR LF* it is used to create lists of tuples. Users should ignore any output after the last defined element in the tuple, more elements may be returned in future versions of the API.

1.4 Time representation

This section describes how time is handled in the system. There are four main categories related to time which will be discussed here: time bases, time positions (a.k.a. time codes), time intervals and time durations.

1.4.1 Time bases

A time base describes how long one unit of time is in seconds using a ratio. This means that everything that has to do with time is done using rational numbers. For instance, ten seconds in the time base used by PAL (1/25) would be 250 units, or 250/25.

Textual representations

When working with time bases it is sometimes necessary to construct textual representations with are human readable and can be more easily output and entered into the system. To that end the following textual representations are valid for time bases:

1. Its inverse as a rational number. The syntax is { **denominator** }[:{ **numerator** }], where numerator can be omitted if it's value is one.
2. A *TimeBaseConstant* string

TimeBaseConstant

The following time base constants are currently defined:

PAL	1/25
NTSC	1001/30000
NTSC30	1/30

Examples

1. 25, 30000:1001, 48000
2. PAL, NTSC

XSL

TimeBaseType is the XML representation of a time base.

```
<xs:complexType name="TimeBaseType">
    <xs:sequence>
        <xs:element name="numerator" type="xs:int"/>
        <xs:element name="denominator" type="xs:int"/>
    </xs:sequence>
</xs:complexType>
```

Examples

```
<timeBase>
    <numerator>1</numerator>
    <denominator>25</denominator>
</timeBase>
```

1.4.2 Time codes

A time code is a representation of a point in time in some time base.

Textual representations

When working with time codes it is sometimes necessary to construct textual representations with are human readable and can be more easily output and entered into the system. To that end the following textual representations are valid for time codes:

1. A sample count and a time base. The syntax is { **number of samples** }[@{ **textual representation of time base** }], where the time base is optional and implicitly one second if omitted. Examples: `124`, `124222@44100`, `400@30000:1001`, `400@NTSC`.
2. A decimal number. Example: `124.25` (will be treated as `12425/100` or `497/4`). This is strongly not recommended, as most sampling frequencies do not have a finite decimal representation!
3. A decimal number and a time base. Example: `124.25/PAL` (will be treated as `12425/2500`). This is also not recommended!
4. The special constants -INF and +INF, representing the earlier than the earliest possible instant and later than the latest possible instant, respectively.

XSL

TimeCodeType is the XML representation of a time code.

```
<xs:complexType name="TimeCodeType">
    <xs:sequence>
        <xs:element name="samples" type="xs:long"/>
        <xs:element name="timeBase" type="tns:TimeBaseType"/>
    </xs:sequence>
</xs:complexType>
```

Examples

```
<timeCode>
    <samples>250</samples>
    <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
    </timeBase>
</timeCode>
```

1.4.3 Time intervals

A time interval consists of two time codes: start and end. The time between them denotes the period of time which is of interest. Note that start and end specify an interval like [start,end) in mathematical notation. In other words, the end time code is not within the interval.

Specifying an interval where both time codes have different time bases is valid.

XSL

```
<xs:complexType name="TimeIntervalType">
    <xs:sequence>
        <xs:element name="start" type="tns:TimeCodeType"/>
        <xs:element name="end"   type="tns:TimeCodeType"/>
    </xs:sequence>
</xs:complexType>
```

Examples

Interval in PAL

```
<!-- Seconds 10-20 in PAL -->
<interval>
    <start>
        <samples>250</samples>
        <timeBase>
            <numerator>1</numerator>
            <denominator>25</denominator>
        </timeBase>
    </start>
    <end>
        <samples>500</samples>
        <timeBase>
            <numerator>1</numerator>
            <denominator>25</denominator>
        </timeBase>
    </end>
</interval>
```

Mixed time bases

```
<!-- Approximately seconds 10-20. Start in PALs time base, end in NTSCs time base (for instance cutti
<interval>
    <start>
        <samples>250</samples>
        <timeBase>
            <numerator>1</numerator>
            <denominator>25</denominator>
        </timeBase>
    </start>
    <end>
        <samples>599</samples>
        <timeBase>
```

```
            <numerator>1001</numerator>
            <denominator>30000</denominator>
        </timeBase>
    </end>
</interval>
```

1.4.4 Time durations

A time duration is the length of a time interval. It can be calculated by subtracting the end time code from the start time code. This means it's simply another time code, with its time line's zero at the start of the interval.

1.4.5 Time span

A time span is a interval between two *time codes*.

There are two notations. The first notation is by using two time instants and separate them with a hyphen (-). The first time instant is included in the interval, the second one is excluded. That is, in the interval 124-221, the instant corresponding to second 124 is included in the interval, but not the instant corresponding to second 221. (E.g., if there is an instant corresponding to second 220.9999999, it is included.)

The other notation is by using one time instant and one *time duration*, separate with a plus sign (+). The notation { **a** } + { **b** } is equivalent to { **a** } − { **a** + **b** }.

1.5 Constants

An assorted list of constants found in the Vidispine API.

- *Job states*
- *Job types*
- *Storage states*
- *Storage types*
- *File States*
- *System configuration*

CHAPTER

TWO

ITEMS AND METADATA

This chapter describes the Item, the central entity in the Vidispine data model, and how metadata (information about the item) can be associated with the item.

2.1 Imports

Importing is the process of registering essence/media with Vidispine. As Vidispine works with files and objects, either local or in the cloud, another way of putting it is to say that the media file(s) become under Vidispine's supervision.

Note: Vidispine does not support machine control or baseband video ingest (http://en.wikipedia.org/wiki/Serial_digital_interface) . However, growing files are supported, including operations on items that are currently being ingested.

2.1.1 Importing items

There are several ways of importing media into Vidispine. Which one that is used depends on where the media is located, the order of operations, and what automation that is required.

On a high level, the different ways of importing are:

Regular import This import uses a URI pointing outside of Vidispine storages to reference the source media. Vidispine will make a copy of the source material (and sidecar files given by the user) to a Vidispine storage.

The job type for this type of import is PLACEHOLDER_IMPORT. For reference information, see *Import using a URI*.

Raw import Here, the caller supplies the material in the REST API call as data in the request body. This is useful when the data is stored as a file at the caller's point, for example when the end user is uploading information in a web browser. It is also useful when the information resides in a location which Vidispine cannot reach, for example behind a firewall.

Vidispine supports partial upload, so the caller can split the input in multiple parts in order to better handle network problems or in order to parallelize uploads.

The job type for this type of import is RAW_IMPORT. Note that the job is not created until all parts of the file has been uploaded. For reference information, see *Import using the request body*.

File import This import is used where the file is already located on a storage which is supervised by Vidispine. In this type of import, no copying takes place. Instead, a new item is created, and the file is associated with the file.

The job type for this type of import is RAW_IMPORT. For reference information, see *Importing a file from a storage*.

Auto-import This is a special case of file import, where no explicit call has to be done for every file. The user sets up *rules* for how files are imported, and if any sidecar files are processed as well.

The job type for this type of import is AUTO_IMPORT. For reference information, see *Auto-import rules*.

Placeholder import A placeholder import is an import where the placeholder item and a placeholder shape are created before any file is imported. When creating the placeholder shape, the caller gives item metadata and information about the components. The creation of the placeholder item is a synchronous operation, and the item id is immediately returned.

Using the item id, the caller can populate the placeholder shape with files, either by posting the URI or the raw content to the components of the shape. The placeholder import is the import method that gives the highest flexibility.

For reference information, see *Placeholder imports*.

Sidecar files

Sidecar files, containing metadata, subtitles, or other supplementary information, can be imported to an item either at the same time as the item is imported, or afterwards using an sidecar import job.

2.1.2 Steps of import operation

Every import job consists of a number of job steps. Some of the the job steps run in parallel, and some in sequence. These are the most important steps in an import job:

- Create entities. The item and the *original* shape is created. This will not take place if the caller already has created the item before the job (placeholder import).
- Transfer media. The media is transferred from the source URI to a Vidispine storage. This will not take place if the media is already located on a Vidispine storage (raw import, file import, auto-import).
- Initial media check. The media is checked using a *shape deduction* by the transcoder. The components of the original shape are created.
- Transcoding. Using the information about the original shape and all shape tags given by the caller at the invocation of the job, a transcoding task is created and given to the transcoder.
- A media check of all new shapes takes place, as soon as the transcoder has started to work.
- A final media check of the original media and transcoder shapes is done after the transcoder has finished.
- Any XMP, EXIF, or document metadata is extracted.
- Optionally, the original shape can be replaced by a transcoded shape. This is useful if one seeks to have one "house format" as the original shape format, and all incoming material of other types should be converted into the house format.
- Sidecar files are imported.

2.1.3 Transcoding

During import, the caller decides which shape tags that are to be created from the original media. By default, thumbnails are created according the to the shape tag definitions. The caller can choose which thumbnail service resource to use, if multiple resources are set up. This is done using the query parameter `thumbnailService`. In addition to thumbnails, full-resolution posters images can be created, by supplying a list of timecodes in the query parameter `createPosters`. The creation of thumbnails can be disabled by setting the query parameter `thumbnails` to false.

2.1.4 Notifications

As with all jobs in Vidispine, the caller can be notified about the job progress by HTTP messages or other actions. This is described in the *Notifications* section.

2.1.5 Adjusting import

The import API is very rich and contains several parameters. Fortunately, most of the time, the default values can be used.

Import settings

Settings that are used during imports can be set prior to starting an import job. An example of such a setting are access control lists. The settings can then be used by specifying the id of the settings profile using the query parameter `settings`.

Special job metadata values

Special instructions can be supplied to the import job via the the query parameter `jobmetadata`= { **key** = **value** }. Note that the equals sign is part of the value of the query parameter, so it has to be URL encoded (`%3d`)

Cut off start and end of video

Given that the video has SMPTE timecodes, an interval can be cut out using the metadata `smpteTimeCode` and `lastSmpteTimeCode`.

Checksum on file transfer

New in version 4.2.8.

Normally, the checksum of the imported files will be computed asynchronously in the background. For `PLACEHOLDER_IMPORT` jobs, by specifying the jobmetadata `checksumMode%3Dtransfer`, the checksum of files will be computed during the transfer step of the job. See `checksumMode`.

2.2 Exports

An item export is the process of copying a file from storage to a location accessible by the system.

2.2.1 Exporting items

Exporting the files of an item is an asynchronous operation that is performed by an `EXPORT` job. The *export resource* allows you to:

- Export files for an item.
- Export files for the items in a specific collection or library.
- Export files for specific shapes only.
- Export partial file content, by specifying a start and end time code.

There are a number of operations that can be performed as part of an export. An export job can:

- Restore files from archive if necessary.
- Transcode into the selected formats.
- Rewrite the XMP in the exported files so that it matches the XMP in the item metadata.
- Create a sidecar XML file containing the item metadata.
- Transfer the files to the final location.

Example

To export the original shape of a specific item to a directory on the local file system:

```
POST /item/VX-191440/export?uri=file:///srv/exported/&tag=original

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-169822</jobId>
  <user>admin</user>
  <started>2014-07-03T09:39:52.969Z</started>
  <status>READY</status>
  <type>EXPORT</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

2.2.2 Export locations

It is possible to pre-define named export locations. When starting an export job, the location name can be passed as a parameter, the files will then be exported to the URI associated with the export location.

```
PUT /API/export-location/default-exports
Content-Type: application/xml

<ExportLocationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>file:///srv/exported/</uri>
</ExportLocationDocument>

POST /item/VX-191440/export?locationName=default-exports&tag=original

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-169824</jobId>
  <user>admin</user>
  <started>2014-07-03T09:49:12.972Z</started>
  <status>READY</status>
  <type>EXPORT</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

See the *export location resource* for more information.

File naming scripts

Export locations can have a JavaScript associated with them. These work the same way as file name scripts on storages (see *Naming files on storage*). The difference is that for export locations, the script will not be retried if there

is a filename conflict. That is, if the filename generated by the script is already taken, then the existing file will be overwritten.

There are two ways to add a script to an export location, either using XML, or by using the *script resource*.

Example

Adding a script to an export location using XML.

```
PUT /export-location/External_FTP HTTP/1.1
Content-Type: application/xml

<ExportLocationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>ftp://user:password@10.2.23.25/export/</uri>
  <script>filename = context.getOriginalFilename() + "." + context.getExtension();</script>
</ExportLocationDocument>
```

Example

Adding a script to an export location using the `script` REST resource.

```
PUT /export-location/External_FTP/script HTTP/1.1
Content-Type: text/plain

filename = context.getOriginalFilename() + "." + context.getExtension();
```

2.3 Item metadata

The metadata of an item consists of fields, groups and values that belong to a specific interval or timespan. Metadata that does not apply to a specific interval, that is, it is non-timed, belong to the timespan with a start and end of `-INF` and `+INF`, respectively.

- A timespan describes an interval within the item, denoted by two *time codes* (a start value and an end value).
- A timespan contains sets of fields and groups.
- Groups are named sets of fields and groups.
- Fields have a *name* and a set of values of a specific type.

Examples of usage can be found at *Creating fields/groups, modifying and moving metadata*.

2.3.1 Fields

Before you can use fields and groups in the metadata of an item you need to define them. When defining a field you must select its data type, that is, the type of values that will be accepted for the field. You can also restrict values further by adding additional *restrictions* to the field.

```
PUT /metadata-field/event_type HTTP/1.1
Content-Type: application/xml

<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <type>string-exact</type>
    <stringRestriction>
```

```
      <pattern>[a-z]+</pattern>
    </stringRestriction>
</MetadataFieldDocument>

HTTP/1.1 200 OK
```

Field identifiers

Metadata field ids are case sensitive and must have a certain format to avoid conflicts with existing and possible future fields used by Vidispine or other partners.

A metadata field id (name) is one of:

- **Core set**, the standard metadata set. Metadata field ids are assigned by Vidispine, and are of the regular expression form: `[A-Za-z][A-Za-z0-9]*`. maximum 32 characters.
- **Common set**. Metadata field ids have the form { *category* } _ { *field-name* }. The *category* is of the regular expression form: `[A-Za-z][A-Za-z0-9]*`, maximum 4 characters, and assigned by Vidispine to be used by industry partners. *field-name* is the regular expression form: `[A-Za-z][A-Za-z0-9]*`. Total length of id is maximum 32 characters, including the underscore (_) character.
- **Custom set**. Metadata field ids have the form { *custom-name* } _ { *field-name* }. The *custom-name* is of the regular expression form: `[A-Za-z][A-Za-z0-9]*`, *minimum* 5 characters, and assigned by Vidispine. *field-name* is the regular expression form: `[A-Za-z][A-Za-z0-9]*`. Total length of id is maximum 32 characters, including the underscore (_) character.

Data types

The data types at your disposal are:

Data type	Description
`date`	An ISO-8601 compatible timestamp.
`float`	A floating point value.
`integer`	An integer value.
`string`	A string.
`string-exact`	A string that uses exact matching.
`boolean`	A boolean value. (New in 4.1.)
`timecode`	A *time code* value. (New in 4.1.)

string vs string-exact

During index time, the value of a `string` field is broken into small tokens, and then processed by various filters before been indexed. By doing so, users would get nice phrase search results, but loose the ability of "exact match".

The value of a `string-exact` field, on the other hand, is indexed directly as a single token. This makes a "exact match" possible, and leads to smaller index size.

Note: In order to make search working properly, a re-index is required if the filed type is changed.

Noindex-types

Deprecated since version 4.1: The `index` element on the metadata field should be used instead to control if a field should be indexed.

Use the `noindex` types for fields that will contain data that should not be indexed, for example if it will never be searched for or if it contains data in some format, for example JSON or Base64-encoded binary data.

Data type	Description
`date-noindex`	An ISO-8601 compatible timestamp. No indexing will take place.
`float-noindex`	A floating point value. No indexing will take place.
`integer-noindex`	An integer value. No indexing will take place.
`string-noindex`	A string. No indexing will take place.
`boolean-noindex`	A boolean value. No indexing will take place. (New in 4.1.)
`timecode-noindex`	A *time code* value. No indexing will take place. (New in 4.1.)

Sortable types

Deprecated since version 3.2: Sortable types are deprecated. This is since any field type can be used for sorting as long as it is indexed.

Sortable types can be used when searching to sort search results. A sortable field is one that uses a sortable types. Fields that are sortable have two limitations:

1. They can only exist within non-timed metadata.
2. They cannot contain lists of values.

Data type	Description
`date-sortable`	An ISO-8601 compatible timestamp. Can be used for sorting.
`float-sortable`	A floating point value. Can be used for sorting.
`integer-sortable`	An integer value. Can be used for sorting.
`string-sortable`	A string. Can be used for sorting.
`string-exact-sortable`	A string that uses exact matching. Can be used for sorting.

Restrictions

Add restrictions to metadata fields for further restrict the values that are to be allowed for a field. The table below shows the different types of restrictions that exist.

Data type	Parameter	Restriction
`string`	`pattern`	A Java compatible regular expression (http://java.sun.com/javase/6/docs/api/java/util/regex/Pattern.html)
	`minLength`	A minimum allowed length of the string.
	`maxLength`	A maximum allowed length of the string.
`float`	`minInclusive`	A minimum allowed value (inclusive).
	`maxInclusive`	A maximum allowed value (inclusive).
`integer`	`minInclusive`	A minimum allowed value (inclusive).
	`maxInclusive`	A maximum allowed value (inclusive).

For example, adding a field that only accept integer values in the interval [1, 5].

```
PUT /metadata-field/event_rating HTTP/1.1
Content-Type: application/xml

<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>integer</type>
  <integerRestriction>
    <minInclusive>1</minInclusive>
    <maxInclusive>5</maxInclusive>
```

```
  </integerRestriction>
</MetadataFieldDocument>
```

Note: The naming of your field must follow certain rules, see *Field identifiers*.

Default values

You can assign a default value to a field if you want a field to be included when retrieving the metadata of an item even if it has not been set.

```
PUT /metadata-field/testing_default HTTP/1.1
Content-Type: application/xml

<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>integer</type>
  <defaultValue>0</defaultValue>
</MetadataFieldDocument>

HTTP/1.1 200 OK
```

Use the `defaultValue` parameter to control if the field should be included with the default value. Here item VX-12 does not have the field set:

```
GET /item/VX-12/metadata;field=testing_default;defaultValue=false HTTP/1.1

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item id="VX-12">
    <metadata>
      <revision>VX-59,VX-60,VX-57</revision>
    </metadata>
  </item>
</MetadataListDocument>

GET /item/VX-12/metadata;field=testing_default;defaultValue=true HTTP/1.1

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item id="VX-12">
    <metadata>
      <revision>VX-59,VX-60,VX-57</revision>
      <timespan end="+INF" start="-INF">
        <field>
          <name>testing_default</name>
          <value>0</value>
        </field>
      </timespan>
    </metadata>
  </item>
</MetadataListDocument>
```

2.3.2 Field groups

Metadata fields can be organized in zero or more *field groups*. Use groups to represents events or other types of objects in the metadata.

```
PUT /metadata-field/field-group/event HTTP/1.1
Content-Type: application/xml

<MetadataFieldGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <data>
    <key>description</key>
    <value>An event in a clip</value>
  </data>
  <field>
    <name>event_type</name>
    <data>
      <key>text</key>
      <value>Here is some text.</value>
    </data>
  </field>
  <field>
    <name>event_rating</name>
  </field>
  <field>
    <name>event_text</name>
    <type>string</type>
    <data>
      <key>someextradata</key>
      <value>Some additional data</value>
    </data>
  </field>
  <access>
    <user>admin</user>
    <permission>DELETE</permission>
  </access>
</MetadataFieldGroupDocument>
```

Fields in a group that have not yet been created will be created for you. The example above also shows how additional metadata can be added to fields and groups.

2.3.3 Metadata schema

Finally, you can define a *metadata schema* to make sure that the metadata conforms to a specific data model.

For an example of how to define a metadata schema, see *Defining a metadata schema*. You can also define the schema when creating field groups, as shown in *Alternate way of creating a schema*.

There are three different types of elements in the schema: groups, fields and nested groups. They all have in common three attributes, `name`, `min` and `max`, and the two latter elements also have the attribute `reference`.

- **Name** is the name of the field or group that the element refers to. The table below shows the semantics of a property for the different elements.
- **Min** specifies the minimum of times that the element can occur in that context and is a non-negative integer.
- **Max** specifies the maximum of times that the element can occur in that context and if set to a negative value it will be interpreted as an infinite number of times.

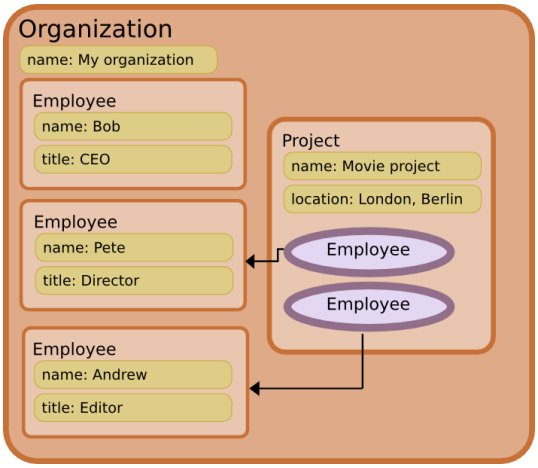
	Group	Nested groups	Field
min	The minimum number of times that the group can occur at top-level.	The minimum number of times that the group can occur inside the given group	The minimum number of times the field can occur inside the given group
max	The maximum number of times that the group can occur at top-level.	The maximum number of times that the group can occur inside the given group	The maximum number of times the field can occur inside the given group
name	The name of the group.	The name of the group.	The name of the field.
reference	-	If set, controls whether the group must be a reference or not.	If set, controls whether the group must be a reference or not.

Top-level groups are used to specify what a fields and groups that they are allowed to contain. Furthermore they specify whether or not that group can exist outside of other groups. Nested groups and fields are used to specify the content of a top-level group.

2.3.4 Hierarchical metadata

Complex data relations can be represented with hierarchical metadata. Let's say we have three classes in our data model, Organization, Employee and Project. An organization has a name, one or more employees and one or more projects. An employee has a name and a title. A project has a name and one or more employees assigned to it. This data model can be represented by using *field groups* to represent the classes and *fields* to represent the attributes.

Below an example of this data model is given:



As can be seen in the diagram, weak references are used in the project to point to the employees in the organization to avoid data duplication. An equivalent XML of the above diagram:

```
<MetadataDocument>
  <timespan start="-INF" end="+INF">
    <group>
      <name>organization</name>
      <field>
        <name>name</name>
        <value>My organization</value>
      </field>
      <group uuid="c9be268e-03f4-4378-8061-e1c8b8f6b45c">
        <name>employee</name>
        <field>
          <name>name</name>
          <value>Bob</value>
```

```
        </field>
        <field>
          <name>title</name>
          <value>CEO</value>
        </field>
      </group>
      <group uuid="96a333b1-06f0-4975-adee-78b93c2a7614">
        <name>employee</name>
        <field>
          <name>name</name>
          <value>Pete</value>
        </field>
        <field>
          <name>title</name>
          <value>Director</value>
        </field>
      </group>
      <group uuid="82f92192-d2ef-422a-984a-b03cb0476a8a">
        <name>employee</name>
        <field>
          <name>name</name>
          <value>Andrew</value>
        </field>
        <field>
          <name>title</name>
          <value>Editor</value>
        </field>
      </group>
      <group>
        <name>project</name>
        <field>
          <name>name</name>
          <value>Movie project</value>
        </field>
        <field>
          <name>location</name>
          <value>London</value>
          <value>Berlin</value>
        </field>
        <group>
          <name>employee</name>
          <reference>96a333b1-06f0-4975-adee-78b93c2a7614</reference>
        </group>
        <group>
          <name>employee</name>
          <reference>82f92192-d2ef-422a-984a-b03cb0476a8a</reference>
        </group>
      </group>
    </group>
  </timespan>
</MetadataDocument>
```

2.3.5 Versioning

Metadata essentially consists of key-value pairs. The key of a value is its UUID, but can also often be described by the quintuple (timespan, group, field name, track, language). However the latter does not guarantee unambiguity. If at any point a key corresponds to more than one value, then a conflict exists.

Change sets

A change set is a set of changes to the metadata. The change set has a unique id and can be related to other change sets. The current revision of the metadata is essentially the superset of all change sets.

Example

If we start with a newly imported item, its metadata might look like this:

```
GET item/VX-250/metadata

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item id="VX-250">
    <metadata>
      <revision>VX-30</revision>
      <timespan end="+INF" start="-INF">
        <field>
          <name>durationSeconds</name>
          <value change="VX-30" timestamp="2010-03-19T09:08:09.563+01:00" user="system">232.32</value
        </field>
        <field>
          <name>user</name>
          <value change="VX-30" timestamp="2010-03-19T09:08:09.588+01:00" user="system">admin</value>
        </field>
        <field>
          <name>durationTimeCode</name>
          <value change="VX-30" timestamp="2010-03-19T09:08:09.576+01:00" user="system">232320000@100
        </field>
      </timespan>
    </metadata>
  </item>
</MetadataListDocument>
```

Assume two users, u1 and u2, both wants to add a title, not knowing of each others changes.

```
PUT item/VX-250/metadata?revision=VX-30
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan end="+INF" start="-INF">
    <field>
      <name>title</name>
      <value>u1's title</value>
    </field>
  </timespan>
</MetadataDocument>

PUT item/VX-250/metadata?revision=VX-30
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan end="+INF" start="-INF">
    <field>
      <name>title</name>
      <value>u2's title</value>
    </field>
  </timespan>
</MetadataDocument>
```

The result of the two operations will result in a conflict, because u2 did not know of the change made by u1.

```
GET item/VX-250/metadata
```

```
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item>
      <metadata>
         <revision>VX-30,VX-32,VX-31</revision>
         <timespan end="+INF" start="-INF">
            <field conflict="true">
               <name>title</name>
               <value change="VX-32" timestamp="2010-03-19T09:16:56.419+01:00" user="u2">u2's title</
               <value change="VX-31" timestamp="2010-03-19T09:16:25.454+01:00" user="u1">u1's title</
            </field>
            <field>
               <name>durationSeconds</name>
               <value change="VX-30" timestamp="2010-03-19T09:08:09.563+01:00" user="system">232.32</
            </field>
            <field>
               <name>user</name>
               <value change="VX-30" timestamp="2010-03-19T09:08:09.588+01:00" user="system">admin</v
            </field>
            <field>
               <name>durationTimeCode</name>
               <value change="VX-30" timestamp="2010-03-19T09:08:09.576+01:00" user="system">2323200
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

In order to resolve the conflict u1 inserts another change set:

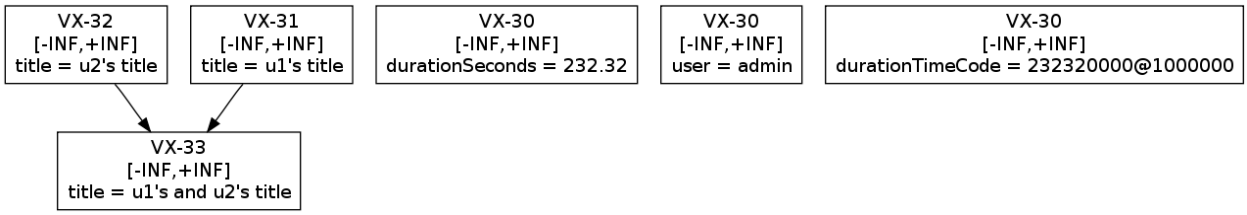
```
PUT item/VX-250/metadata?revision=VX-30,VX-32,VX-31
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan end="+INF" start="-INF">
      <field>
         <name>title</name>
         <value>u1's and u2's title</value>
      </field>
   </timespan>
</MetadataDocument>
```

Which results in:

```
GET item/VX-250/metadata

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item>
      <metadata>
         <revision>VX-30,VX-33</revision>
         <timespan end="+INF" start="-INF">
            <field>
               <name>title</name>
               <value change="VX-33" timestamp="2010-03-19T09:21:28.692+01:00" user="u1">u1's and u2'
            </field>
            <field>
               <name>durationSeconds</name>
```

```
            <value change="VX-30" timestamp="2010-03-19T09:08:09.563+01:00" user="system">232.32</
         </field>
         <field>
            <name>user</name>
            <value change="VX-30" timestamp="2010-03-19T09:08:09.588+01:00" user="system">admin</v
         </field>
         <field>
            <name>durationTimeCode</name>
            <value change="VX-30" timestamp="2010-03-19T09:08:09.576+01:00" user="system">2323200
         </field>
      </timespan>
   </metadata>
</item>
</MetadataListDocument>
```

A graph of this can be seen below. Worth noting is that it is the leaves of the graph that represent the current revision.



2.3.6 Structure of metadata

Lists of values

A field can contain multiple values.

Example

Retrieving the current metadata:

```
GET /item/VX-250/metadata
```

```
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-7612">
      <metadata>
         <revision>VX-16113,VX-16114</revision>
         <timespan end="+INF" start="-INF">
            <field change="VX-16114" timestamp="2010-08-16T08:28:18.592+02:00" user="system" uuid="4
               <name>shapeTag</name>
               <value change="VX-16114" timestamp="2010-08-16T08:28:18.592+02:00" user="system" uuid
            </field>
            <field change="VX-16113" timestamp="2010-08-16T08:28:18.366+02:00" user="admin" uuid="d3
               <name>field_a</name>
               <value change="VX-16113" timestamp="2010-08-16T08:28:18.366+02:00" user="admin" uuid="
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Adding a new value to `field_a`, if the `mode` attribute is left out the existing value will be modified instead of adding it as a new value.

```
PUT /item/VX-250/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="-INF" end="+INF">
      <field>
         <name>field_a</name>
         <value mode="add">my other value</value>
      </field>
   </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item>
      <metadata>
         <revision>VX-16113,VX-16114,VX-16115</revision>
         <timespan end="+INF" start="-INF">
            <field change="VX-16115" timestamp="2010-08-16T08:35:18.550+02:00" user="admin" uuid="d35
               <name>field_a</name>
               <value change="VX-16113" timestamp="2010-08-16T08:28:18.366+02:00" user="admin" uuid="
               <value change="VX-16115" timestamp="2010-08-16T08:35:18.550+02:00" user="admin" uuid="
            </field>
            <field change="VX-16114" timestamp="2010-08-16T08:28:18.592+02:00" user="system" uuid="4
               <name>shapeTag</name>
               <value change="VX-16114" timestamp="2010-08-16T08:28:18.592+02:00" user="system" uuid=
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

In order to modify either of the two values of the field the UUID must be specified, otherwise ambiguity will exist.

```
PUT /item/VX-250/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="-INF" end="+INF">
      <field>
         <name>field_a</name>
         <value>my new value</value>
      </field>
   </timespan>
</MetadataDocument>

400 An invalid parameter was entered
Context: metadata
Reason: Ambiguous path to value
```

Values can be removed by setting the `mode` attribute to `remove`.

```
PUT /item/VX-250/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="-INF" end="+INF">
```

```
      <field>
         <name>field_a</name>
         <value mode="remove" uuid="31602cd8-4cfa-4912-a6fb-d731841f880c"/>
      </field>
   </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item>
      <metadata>
         <revision>VX-16114,VX-16115,VX-16117</revision>
         <timespan end="+INF" start="-INF">
            <field change="VX-16117" timestamp="2010-08-16T08:48:21.474+02:00" user="admin" uuid="d35
               <name>field_a</name>
               <value change="VX-16115" timestamp="2010-08-16T08:35:18.550+02:00" user="admin" uuid="
            </field>
            <field change="VX-16114" timestamp="2010-08-16T08:28:18.592+02:00" user="system" uuid="4c
               <name>shapeTag</name>
               <value change="VX-16114" timestamp="2010-08-16T08:28:18.592+02:00" user="system" uuid=
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Weak references

Groups and fields can refer to other groups and fields by using weak references. Furthermore the metadata of other items and collections as well as global metadata can be referenced.

Example: referencing global metadata

Adding some global metadata:

```
PUT /metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
    <group mode="add">
      <name>test</name>
      <field>
        <name>example_name</name>
        <value>Global name</value>
      </field>
    </group>
  </timespan>
</MetadataDocument>

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <revision>VX-76,VX-82,VX-80,VX-84</revision>
  <timespan start="-INF" end="+INF">
    <group uuid="aaf7fde8-308d-4555-8a8b-8954f5ec5fd9" user="admin" timestamp="2010-12-27T09:40:32.66
      <name>test</name>
      <field uuid="376e831b-8e8e-4c0a-a7b2-dfdbb49d2e20" user="admin" timestamp="2010-12-27T09:40:32
        <name>example_name</name>
```

```
        <value uuid="431d8078-fb05-42f0-87ae-a9ea73b8c4d1" user="admin" timestamp="2010-12-27T09:40:3
      </field>
    </group>
  </timespan>
</MetadataDocument>
```

Referencing it from an item:

```
PUT /item/VX-15/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
    <group mode="add">
      <name>test</name>
      <reference>aaf7fde8-308d-4555-8a8b-8954f5ec5fd9</reference>
    </group>
  </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item id="VX-15">
    <metadata>
      <revision>VX-86,VX-87</revision>
      <timespan end="+INF" start="-INF">
        <field change="VX-86" timestamp="2010-12-27T09:44:43.594+01:00" user="system" uuid="154c5b1c-
          <name>shapeTag</name>
          <value change="VX-86" timestamp="2010-12-27T09:44:43.594+01:00" user="system" uuid="eb05a78
        </field>
        <group change="VX-87" timestamp="2010-12-27T09:45:21.786+01:00" user="admin" uuid="7c3d0b12-9
          <name>test</name>
          <referenced id="" type="global" uuid="aaf7fde8-308d-4555-8a8b-8954f5ec5fd9"/>
          <field change="VX-84" timestamp="2010-12-27T09:40:32.667+01:00" user="admin" uuid="376e831b
            <name>example_name</name>
            <value change="VX-84" timestamp="2010-12-27T09:40:32.667+01:00" user="admin" uuid="431d80
          </field>
        </group>
      </timespan>
    </metadata>
  </item>
</MetadataListDocument>
```

2.3.7 Metadata defined by the systems

Name	Description
user	The name of the user that imported the item.
shapeTag	A shape tag that is used on a shape belonging to the item.
representativeThumbnail	A thumbnail that is representative of the item. Initially set by the system, but can be modified by a user.
representativeThumbnailNoAuth	Same as above, with the exception that no authentication is required.
itemId	The id of the item.
mediaType	The type of the media, e.g. video/audio/binary.
shapeTag	A shape tag that is used on a shape belonging to the item.
created	The time when item was created.
originalAudioCodec	The original audio codec of the essence.
originalVideoCodec	The original video codec of the essence.
originalHeight	The original height of the essence.
originalWidth	The original width of the essence.
originalFormat	The original container format of the essence.
durationSeconds	The duration of the item expressed in seconds.
durationTimeCode	The duration of the item expressed as a time code.

Transient metadata

Transient metadata is a special type of metadata that is not revision controlled and only continuously updated by the system. It can be used to create complex search queries. All transient metadata are prefixed by double underscores.

Name	Description	Indexed
__collection	The id of the collection an item belongs to.	Yes
__collection_size	The number of collections that the item belongs to.	Yes
__ancestor_collection	The id of an ancestor collection of an item.	Yes
__ancestor_collection_size	The number of ancestor collections of an item.	Yes
__shape	The id of a shape that belongs to the item.	Yes
__shape_size	The number of shapes that the item has.	Yes
__shape_last_added	The creation date of the newest shape of the item.	Yes
__shapetag_{tag}_hash[_{a}]	The checksum of a file of the item, where *a* is the algorithm.	Yes
__placeholder_shape_size	The number of placeholder shapes that the item has.	Yes
__version	The essence version numbers.	Yes
__version_size	The number of essence versions that the item has.	Yes
__storage	The id of a storage that has files that belongs to the item.	Yes
__storage_size	The number of storages that has files that belongs to the item.	Yes
__storagegroup	The id of a group that has files that belongs to the item.	Yes
__storagegroup_size	The number of groups that has files that belongs to the item.	Yes
__sequence	The format of a sequence that belongs to the item.	Yes
__sequence_size	The number of sequences that the item has.	Yes
__metadata_last_modified	The time of the last metadata update.	Yes

For collections, the following transient metadata fields exist:

Name	Description	Indexed
__child_collection	The id of the collection that the collection contains.	Yes
__child_collection_size	The number of collections that the collection contains.	Yes
__parent_collection	The id of the collection that the collection belongs to.	Yes
__parent_collection_size	The number of collections that the collection belongs to.	Yes
__ancestor_collection	The id of an ancestor collection of a collection.	Yes
__ancestor_collection_size	The number of ancestor collections of a collection.	Yes
__metadata_last_modified	The time of the last metadata update.	Yes
__folder_mapped	True if the collection maps to a folder, else false.	Yes
__child_folder_collection	The id of the folder collection that the collection contains.	Yes
__parent_folder_collection	The id of the folder collection that the collection belongs to.	Yes

File metadata

Metadata can be parsed from some file formats. The metadata is inserted as non-temporal metadata contained in different groups, depending on the source of the metadata. The exact structure of the groups may differ based on the encountered metadata. The parsing of file metadata must be enabled in the *configuration*.

Name	Type	Description
xmp_root	Group	The root group containing all XMP metadata.
document_root	Group	The root group for document metadata present in Office and PDF files.
document_text	Field	The text present in the document
document_metadata	Group	The group containing the metadata of the document.

2.4 Searching for items (and collections)

2.4.1 Searching in Vidispine

Item and collection searching in Vidispine is implemented using Solr as backend. This allows functionality such as boolean operators, faceted searching, term highlighting, search term suggestions, etc. It is possible to search for just items, just collections, or both at the same time, depending on which RESTful resource the search request is made to (`/item`, `/collection` or `/search`). The search criteria are expressed using an XML or JSON document of type *ItemSearchDocument*, described in more detail below.

Tip: For best performance

- Don't retrieve the hit count if you don't use it.
- Use *filters* if possible as these can be cached separately and do not affect the score nor highlighting.
- Disable *full text indexing* for fields that contain JSON or other content that should not be included in the full text index.
- Only fetch the specific metadata fields and groups that you need instead of fetching all metadata. See *Get information*.
- If you only want to search in the generic metadata, or if your application does not use timed metadata, then make sure to specify `<intervals>generic</intervals>`.

2.4.2 Search history

Vidispine stores the search document, as well as the timestamp and user for all searches that are made. If the same user makes an identical search twice, only one entry will be shown in the search history, with the timestamp of the last

search.

2.4.3 Queries

Boolean operators

Boolean operators AND, OR and NOT can be used in search queries. A boolean operator can contain zero or more field-value pairs and zero or more boolean operators.

Implicit operators

If no operators are specified operators are implicitly added using the following rules:

Multiple values within a field

If a field contains multiple values, an implicit OR operator is added.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>originalFormat</name>
    <value>dv</value>
    <value>mp4</value>
  </field>
</ItemSearchDocument>
```

is logically equivalent to

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="OR">
    <field>
      <name>originalFormat</name>
      <value>dv</value>
    </field>
    <field>
      <name>originalFormat</name>
      <value>mp4</value>
    </field>
  </operator>
</ItemSearchDocument>
```

Multiple field elements at top level

If a document has multiple field elements at top level, an implicit AND operator is added.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>originalFormat</name>
    <value>dv</value>
  </field>
  <field>
    <name>originalFormat</name>
    <value>mp4</value>
  </field>
</ItemSearchDocument>
```

is logically equivalent to

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="AND">
    <field>
      <name>originalFormat</name>
      <value>dv</value>
    </field>
    <field>
      <name>originalFormat</name>
      <value>mp4</value>
    </field>
  </operator>
</ItemSearchDocument>
```

Text elements

In version 1 of the query syntax text elements are added with an implicit AND operator, and in version 2 it's an implicit OR.

Example

Searching for items that were not created within the last week and have either the formats `mp4` or `dv`.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="AND">
    <operator operation="NOT">
      <field>
        <name>created</name>
        <range>
          <value>NOW-7DAYS</value>
          <value>NOW</value>
        </range>
      </field>
    </operator>
    <field>
      <name>originalFormat</name>
      <value>mp4</value>
      <value>dv</value>
    </field>
  </operator>
</ItemSearchDocument>
```

Phrase search

Vidispine supports *wildcard* search and *phrase* search for field type `string` and `string-exact`. A phrase is a group of words surrounded by double quotes, such as "foo bar".

Wildcard search

The wildcard special character in Vidispine is *, meaning matching zero or more sequential characters.

he*	words start with"he", like he, hey, hello
h*e	will match he, hope, house, etc.
*he	words end with "he", like he, the.

Note: wildcard in a phrase search is not supported (e.g. `"foo b*"` won't be able to find `foo bar`).

Search intervals

By setting <*interals*> in the *ItemSearchDocument*, search criteria can be applied to metadata within different ranges accordingly:

generic	only search generic metadata, a.k.a metadata inside (-INF, +INF)
timed	search metadata within ranges other than (-INF, +INF)
all	search metadata both *timed* and *generic* metadata (default option)

For example, search items with only **timed** metadata containing `originalFormat=dv`:

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>originalFormat</name>
    <value>dv</value>
  </field>
  <intervals>timed</intervals>
</ItemSearchDocument>
```

Group search

New in version 4.3.

Searching items by its metadata groups are supported.

Example

To find items with any groups:

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <group>
  </group>
</ItemSearchDocument>
```

To find items without any groups:

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="NOT">
    <group>
    </group>
  </operator>
</ItemSearchDocument>
```

To find items without a "movie_info" group:

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="NOT">
    <group>
      <name>movie_info</name>
    </group>
```

```
  </operator>
</ItemSearchDocument>
```

To find items with a "movie_info" group containing two fields with specific values. Note that the AND is implicit.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <group>
    <name>movie_info</name>
    <field>
      <name>movie_name</name>
      <value>StarWars</value>
    </field>
    <field>
      <name>episode_no</name>
      <value>1</value>
    </field>
  </group>
</ItemSearchDocument>
```

To find items with a "movie_info" group with an episode number of either 1 or 2.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <group>
    <name>movie_info</name>
    <operator operation="OR">
      <field>
        <name>episode_no</name>
        <value>1</value>
      </field>
      <field>
        <name>episode_no</name>
        <value>2</value>
      </field>
    </operator>
  </group>
</ItemSearchDocument>
```

To find items with either a "movie_info" or a "video_info" group.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <operator operation="OR">
      <group>
        <name>movie_info</name>
      </group>
      <group>
        <name>video_info</name>
      </group>
  </operator>
</ItemSearchDocument>
```

Query syntax versions

In 4.2.0 a new query syntax was introduced. In order to use the new syntax, set the `version` attribute in the search document to `2`. If no version is set, the old query syntax will be used (version 1).

Version 1

1. The search value of a `string-exact` field is always interpreted literally.
2. The search value of a `string` field is interpreted literally only if it's surrounded by quotation marks. In other cases, implicit `OR` s are used in between the words.
3. Multiple values means OR. Multiple `text` elements means AND.
4. The `noescape` attribute is needed, if user want to search quotation marks or wildcard characters literally in a `string` field;

```
<?xml version="1.0"?>
<ItemSearchDocument>
  <field>
    <name></name>
    <value noescape="true">\"foo bar\"</value>
    <value noescape="true">foo\*</value>
  </field>
</ItemSearchDocument>
```

Version 2

1. One or more `SPACE` characters means logical AND. So `<value>foo bar</value>` and `<value>foo bar</value>` means searching a field value containing both `foo` and `bar`.
2. Multiple values means OR. To search for `foo` or `bar`, in the title or text:

```
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>title</name>
    <value>foo</value>
    <value>bar</value>
  </field>
</ItemSearchDocument>

<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>foo</text>
  <text>bar</text>
</ItemSearchDocument>
```

3. Special characters in Vidispine search are `"`, `SPACE`, `\`, and `*`. Any character followed by `\` is considered as literal. so `\*` means literal `*`, and `\f` is the same as the single character `f`.
4. The characters inside quotes are consider as literal, except `"`. A `\"` is still needed to represent a literal quote inside quotes.
5. The `noescape` attribute of a metadata field value has been removed since Vidispine 4.2.

Operators and special characters

To highlight the differences between the two versions:

Query	Version 1	Version 2
<text>foo bar</text>	foo OR bar	foo AND bar
<field>foo bar</field>	foo OR bar	foo AND bar
<text>foo</text>	foo AND bar	foo OR bar
<text>bar</text>		
<field>foo</field>	foo OR bar [4]	foo OR bar
<field>bar</field>		
“foo bar”	“foo bar”	“foo bar”
\”foo\”	\\”foo\\” [5]	\”foo\”
foo*	foo*	foo*
foo*	foo* [2]	foo*
foo_bar [6]	foo\\ OR bar [2]	foo_bar

String types

An example of the differences when searching string fields, assuming a field value of `foo bar`.

	`foo bar`			
	Version 1		Version 2	
	string	string-exact	string	string-exact
`foo`	Y	N	Y	N
`FOO`	Y	N	Y	N
`foo bar`	Y	Y	Y	N [11]
`"foo bar"`	Y	N [12]	Y	Y [13]
`foo\ bar`	Y	N	Y	Y [5]
`"foo xy"`	N	N	N	N
`foo xy`	Y	N	N [14]	N

2.4.4 Filters

New in version 4.2.3.

A search filter is a query does not affect scoring nor highlighting, similar to a filter query in Solr. A filter can:

- Contain both fields and operators.
- Be named and *excluded from facets*.

[1] Use `<operator operation="AND">` to search for `foo AND bar` for example.
[2] Use `noescape=true` to search for literal `"`, `*` and `SPACE`.
[3] Here _ means SPACE.
[4] Use `<operator operation="AND">` to search for `foo AND bar` for example.
[5] Use `noescape=true` to search for literal `"`, `*` and `SPACE`.
[6] Here _ means SPACE.
[7] `SPACE` is a special character and needs to be escaped in order to get literally meaning.
[8] The character `"` is interpreted literally.
[9] It’s a phrase search, and “string-exact” only have one token in the index, which the same as the query in this case.
[10] It’s `foo OR xy` in version 1, and `foo AND xy` in version 2.
[11] `SPACE` is a special character and needs to be escaped in order to get literally meaning.
[12] The character `"` is interpreted literally.
[13] It’s a phrase search, and “string-exact” only have one token in the index, which the same as the query in this case.
[14] It’s `foo OR xy` in version 1, and `foo AND xy` in version 2.

Example

```
<ItemSearchDocument>
   <filter operation="OR" name="productType">
     <field>
       <name>type</name>
       <value>pc</value>
     </field>
     <field>
       <name>type</name>
       <value>phone</value>
     </field>
   </filter>
</ItemSearchDocument>
```

2.4.5 Joins

New in version 4.2.2.

Joint searches on metadata of item, share and file are supported. The old search schema is extended with three new search criterion types: `<item>`, `<shape>`, and `<file>`. Please refer to *xmlSchema.xsd* for the full schema.

Depending on the search result needed(items, shapes, or files), `ItemSearchDocument`, `ShapeSearchDocument` or `FileSearchDocument` should be sent to Vidispine respectively. Those three search documents use the same syntax, only the document names are different.

Note:

1. A `version = 2` document is needed in order to perform the joint search.
2. The `<intervals>` constrain only works for item metadata in a `ItemSearchDocument`. It has not effect in `ShapeSearchDocument` and `FileSearchDocument`.

Examples

Joins on item search

Find items containing shapes with metadata `shapeCodec=mp4`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <shape>
    <field>
      <name>shapeCodec</name>
      <value>mp4</value>
    </field>
  </shape>
</ItemSearchDocument>
```

Find items that have generic metadata `title = vidispine`, and contain a shape with `shapeCodec=mp4`, and contain a file with metadata `filetitle = demo`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <field>
      <name>title</name>
```

```
      <value>vidispine</value>
    </field>
  </item>
  <shape>
    <field>
      <name>shapeCodec</name>
      <value>mp4</value>
    </field>
  </shape>
  <file>
    <field>
      <name>filetitle</name>
      <value>demo</value>
    </field>
  </file>
  <intervals>generic</intervals>
</ItemSearchDocument>
```

Find items that have generic metadata `title = vidispine`, and contain a shape with `shapeCodec=mp4`, and contain a file with metadata `filetitle = demo`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <field>
      <name>title</name>
      <value>vidispine</value>
    </field>
  </item>
  <shape>
    <field>
      <name>shapeCodec</name>
      <value>mp4</value>
    </field>
  </shape>
  <file>
    <field>
      <name>filetitle</name>
      <value>demo</value>
    </field>
  </file>
  <intervals>generic</intervals>
</ItemSearchDocument>
```

Find items that have metadata `title = vidispine`, and contain a shape with `shapeCodec=mp4`; the shape must contain a file with metadata `filetitle = demo`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <field>
      <name>title</name>
      <value>item</value>
    </field>
  </item>
  <shape>
    <field>
      <name>shapeCodec</name>
      <value>mp4</value>
```

```
    </field>
    <file>
      <field>
        <name>filetitle</name>
        <value>demo</value>
      </field>
    </file>
  </shape>
</ItemSearchDocument>
```

Operators are also supported as part of a search criterion.

Find items that have metadata `title = vidispine`, or items that have metadata `title = demo` and contain shapes with `shapeCodec=mp4`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="OR">
    <item>
      <field>
        <name>title</name>
        <value>vidispine</value>
      </field>
    </item>
    <operator operation="AND">
      <item>
        <field>
          <name>title</name>
          <value>demo</value>
        </field>
      </item>
      <shape>
        <field>
          <name>shapeCodec</name>
          <value>mp4</value>
        </field>
      </shape>
    </operator>
  </operator>
  <intervals>all</intervals>
</ItemSearchDocument>
```

Joins on search shapes

Find shapes belong to items that have metadata `title = vidispine`, and the shape should have a file with metadata `filetitle = demo`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ShapeSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <field>
      <name>title</name>
      <value>vidispine</value>
    </field>
  </item>
  <shape>
    <field>
```

```
      <name>shapeCodec</name>
      <value>mp4</value>
    </field>
  </shape>
  <file>
    <field>
      <name>filetitle</name>
      <value>demo</value>
    </field>
  </file>
</ShapeSearchDocument>
```

Find shapes belong to items that have files with metadata `filetitle = demo`, and metadata `title = vidispine`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ShapeSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <field>
      <name>title</name>
      <value>vidispine</value>
    </field>
    <file>
      <field>
        <name>filetitle</name>
        <value>demo</value>
      </field>
    </file>
  </item>
  <shape>
    <field>
      <name>shapeCodec</name>
      <value>mp4</value>
    </field>
  </shape>
</ShapeSearchDocument>
```

Joins on file search

Find files belong to items with metadata `title=demo`; it should also belongs to shapes with metadata `shape_title=shape`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<FileSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <field>
      <name>title</name>
      <value>demo</value>
    </field>
  </item>
  <shape>
    <field>
      <name>shape_title</name>
      <value>shape</value>
    </field>
  </shape>
</FileSearchDocument>
```

Joins on collection search

New in version 4.2.4.

Find collections that have metadata `title=vidispine` or collections contains an item with metadata `title=demo`:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="OR">
    <field>
      <name>title</name>
      <value>vidispine</value>
    </field>
    <item>
      <field>
        <name>title</name>
        <value>demo</value>
      </field>
    </item>
  </operator>
</ItemSearchDocument>
```

To find items with specific shapes or files, use a `shape` or `file` query as a subquery of the `item` query.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>title</name>
    <value>vidispine</value>
  </field>
  <item>
    <shape>
      <field>
        <name>shape_title</name>
        <value>demo</value>
      </field>
    </shape>
  </item>
</ItemSearchDocument>
```

Important: Using an item subquery is only possible when the search interval is either `generic` or `all`. When using `timed` then no item subquery is allowed.

Find empty collections.

New in version 4.2.5.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="NOT">
    <item>
    </item>
  </operator>
</ItemSearchDocument>
```

2.4.6 Highlighting

Highlighting can be enabled to determine which part of the metadata that matched the query.

Changed in version 4.2.4: Use the `field` element to enable highlighting for a certain set of fields only.

```
<highlight>
   <field>title</field>
</highlight>
```

Example

```
PUT /item
Content-Type: application/xml

<ItemSearchDocument>
   <field>
      <name>title</name> <!-- Search for the words "interview" or "credits" within the title -->
      <value>interview</value>
      <value>credits</value>
   </field>
   <highlight> <!-- Having a highlight element will enable highlighting even if it is empty -->
      <matchingOnly>true</matchingOnly> <!-- Only highlight fields that actually matched the query.
      <prefix>[</prefix> <!-- A string that appears before the highlighted text -->
      <suffix>]</suffix> <!-- A string that appears after the highlighted text -->
   </highlight>
</ItemSearchDocument>

<ItemListDocument>
   <item id="VX-123" start="-INF" end="+INF"> <!-- Matches in the document were on the interval [-INF
      <timespan start="-INF" end="100">  <!-- One match on [-INF, 100] -->
         <field>title</field>
         <value>[Interview] with the CEO.</value> <!-- The word "interview" is highlighted with the
      </timespan>
      <timespan start="400" end="+INF"> <!-- Another match on [400, +INF] -->
         <field>title</field>
         <value>Closing [credits]</value> <!-- The word "credits" is highlighted with the suffix and
      </timespan>
   </item>
</ItemListDocument>
```

2.4.7 Sorting

Results can be sorted using *sortable fields*. Multiple fields can be used for sorting and are used in the order they are given.

It is also possible to sort by relevance by specifying `_relevance` as the field name.

Changed in version 4.2.4: Specify `_type` to sort by type. The type of an item is `item` and `collection` for collections, so if you want collections first in the results, then sort on `_type` in ascending order.

Changed in version 3.2: Any field can be used for sorting, it does not need to flagged as sortable. If a field contains multiple values: ascending order will compare with its minimum value and descending order will compare with its maximum value.

Example

Listing all items sorted according to length in descending order and format in ascending order.

```
PUT /item
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <sort>
      <field>durationSeconds</field>
      <order>descending</order>
   </sort>
   <sort>
      <field>originalFormat</field>
      <order>ascending</order>
   </sort>
</ItemSearchDocument>
```

2.4.8 Faceting

Faceting is used to show number of matching items for one or more sub-constraints for a given result-set. You might for example be interested in displaying how many of the items returned from a search are of type `video`, how many are of type `audio`, and how many are of type `data`.

There are two types of operations that can be performed, counting and specifying ranges. Counting means that it will count the occurrences of each unique value. When specifying ranges, the number of occurrences within a certain range is counted. Both the start and the end of a range are inclusive and "*" can be used to represent minimum or maximum. Note that faceted search only can be used over non-timed metadata.

Example

item	category	price
VX-251	tv	100
VX-252	radio	200
VX-253	tv	300
VX-254	phone	400
VX-255	radio	500
VX-256	radio	100
VX-257	phone	200
VX-258	phone	300
VX-259	phone	200
VX-260	phone	300

Consider the items in the table above, together with their metadata on the fields **my_category** and **my_price**. A faceted search that should count the occurrences of each category and the occurrences of prices within the ranges [*, 199], [200, 399] and [400, *] might look like this:

```
PUT /item
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <facet count="false">
        <field>my_price</field>
        <range start="*" end="199"/>
        <range start="200" end="399"/>
```

```
        <range start="400" end="*"/>
    </facet>

    <facet count="true">
        <field>my_category</field>
    </facet>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <hits>13</hits>
    <item id="VX-248" start="-INF" end="+INF"/>
    <item id="VX-249" start="-INF" end="+INF"/>
    <item id="VX-250" start="-INF" end="+INF"/>
    <item id="VX-251" start="-INF" end="+INF"/>
    <item id="VX-252" start="-INF" end="+INF"/>
    <item id="VX-253" start="-INF" end="+INF"/>
    <item id="VX-254" start="-INF" end="+INF"/>
    <item id="VX-255" start="-INF" end="+INF"/>
    <item id="VX-256" start="-INF" end="+INF"/>
    <item id="VX-257" start="-INF" end="+INF"/>
    <item id="VX-258" start="-INF" end="+INF"/>
    <item id="VX-259" start="-INF" end="+INF"/>
    <item id="VX-260" start="-INF" end="+INF"/>
    <facet>
        <field>my_category</field>
        <count fieldValue="phone">5</count>
        <count fieldValue="radio">3</count>
        <count fieldValue="tv">2</count>
    </facet>
    <facet>
        <field>my_price</field>
        <range start="*" end="199">2</range>
        <range start="200" end="399">6</range>
        <range start="400" end="*">2</range>
    </facet>
</ItemListDocument>
```

Now assume we want to see how the prices are distributed for phones, we could filter the search in the following manner:

```
PUT /item
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <filter>
        <field>
          <name>my_category</name>
          <value>phone</value>
        </field>
    </filter>
    <facet count="false">
        <field>my_price</field>
        <range start="*" end="199"/>
        <range start="200" end="399"/>
        <range start="400" end="*"/>
    </facet>
</ItemSearchDocument>
```

```
<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <hits>5</hits>
   <item id="VX-254" start="-INF" end="+INF"/>
   <item id="VX-257" start="-INF" end="+INF"/>
   <item id="VX-258" start="-INF" end="+INF"/>
   <item id="VX-259" start="-INF" end="+INF"/>
   <item id="VX-260" start="-INF" end="+INF"/>
   <facet>
      <field>my_price</field>
      <range start="*" end="199">0</range>
      <range start="200" end="399">4</range>
      <range start="400" end="*">1</range>
   </facet>
</ItemListDocument>
```

The opposite is also possible, to see the distribution of the categories over a range of prices.

```
PUT /item
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">

   <filter>
        <field>
          <name>my_price</name>
          <range start="200" end="399"/>
        </field>
   </filter>

   <facet count="true">
        <field>my_category</field>
   </facet>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <hits>6</hits>
   <item id="VX-252" start="-INF" end="+INF"/>
   <item id="VX-253" start="-INF" end="+INF"/>
   <item id="VX-257" start="-INF" end="+INF"/>
   <item id="VX-258" start="-INF" end="+INF"/>
   <item id="VX-259" start="-INF" end="+INF"/>
   <item id="VX-260" start="-INF" end="+INF"/>
   <facet>
      <field>my_category</field>
      <count fieldValue="phone">4</count>
      <count fieldValue="radio">1</count>
      <count fieldValue="tv">1</count>
   </facet>
</ItemListDocument>
```

Facet exclusion

New in version 4.2.3.

One or more search filters can be excluded from a facet using `<exclude>` tags. Facets can be named to make it possible to distinguish between different facets, for example when using multiple facets on the same field but with different excludes.

The facet exclusion is similar to how one can tag and exclude filters in Solr (https://wiki.apache.org/solr/SimpleFacetParameters#Tagging_and_excluding_Filters).

Example

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <filter name = "tvFilter">
     <field>
        <name>my_category</name>
        <value>tv</value>
     </field>
   </filter>
   <filter name = "priceFilter">
      <field>
        <name>my_price</name>
        <range start="200" end="399"/>
      </field>
   </filter>

   <facet count="true">
        <field>my_category</field>
   </facet>

   <facet name="excludeTv" count="true">
        <field>my_category</field>
        <exclude>tvFilter</exclude>
        <!-- <exclude>tvFilter2</exclude> Multiple exclusions -->
   </facet>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-253" start="-INF" end="+INF"/>
   <facet>
      <field>my_category</field>
      <count fieldValue="tv">1</count>
      <count fieldValue="phone">0</count>
      <count fieldValue="radio">0</count>
   </facet>
   <facet name="excludeTv">
      <field>my_category</field>
      <count fieldValue="tv">4</count>
      <count fieldValue="phone">1</count>
      <count fieldValue="radio">1</count>
   </facet>
</ItemListDocument>
```

2.4.9 Spell checking

Search terms can be checked against a dictionary. This enables "Did you mean..." types of searches. The dictionary used is built from the search index and updated periodically.

Example

Consider a user is intending to searching for the "original duration" but misspells both words:

```
PUT /item
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <text>orignal durraton</text>

    <suggestion> <!-- Enables spell checking -->
        <maximumSuggestions>2</maximumSuggestions> <!-- Optional: Specifies the maximum number of su
        <accuracy>0.7</accuracy> <!-- Optional: A value between 0.0 (least accurate) and 1.0 (most a
    </suggestion>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <hits>0</hits>
  <suggestion>
    <term>orignal</term> <!-- A misspelled search term -->

    <!-- A list of suggestions, with the most likely suggestion being first -->
    <suggestion>original</suggestion>
    <suggestion>ordinal</suggestion>
  </suggestion>
  <suggestion>
    <term>durraton</term>
    <suggestion>duration</suggestion>
  </suggestion>
</ItemListDocument>
```

2.4.10 Autocompletion

Text can be autocompleted against the search index.

Example

Assuming the user intends to type “original duration”. The user first starts typing “original”:

```
PUT /search/autocomplete
Content-Type: application/xml

<AutocompleteRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>orig</text>
  <maximumSuggestions>3</maximumSuggestions>
</AutocompleteRequestDocument>

<AutocompleteResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <suggestion>original</suggestion>
  <suggestion>origin</suggestion>
  <suggestion>originated</suggestion>
</AutocompleteResponseDocument>
```

Then the user continues to start typing “duration”:

```
<AutocompleteRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>original dur</text>
  <maximumSuggestions>3</maximumSuggestions>
</AutocompleteRequestDocument>
```

```
<AutocompleteResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <suggestion>original duration</suggestion>
</AutocompleteResponseDocument>
```

Autocomplete on metadata fields

New in version 4.1.

You can also autocomplete on specific metadata fields. In order to make the autocompletion case insensitive, the metadata field should be set as `<index>extend</index>`.

Example:

A metadata field `foo_bar` with config:

```
<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
         <type>string-exact</type>
         <index>extend</index>
</MetadataFieldDocument>
```

and this filed contains multiple values: “Animal”, “Sky”, “Animal and Sky”, “animal and sky”

An auto-complete request with user input “animal a”:

```
PUT /search/autocomplete
Content-Type: application/xml

<AutocompleteRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>foo_bar</field>
  <text>animal a</text>
</AutocompleteRequestDocument>
```

will give result:

```
<AutocompleteResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <suggestion>Animal and Sky</suggestion>
  <suggestion>animal and sky</suggestion>
</AutocompleteResponseDocument>
```

2.5 Metadata projections

Vidispine supports two kinds of conversion tools for automating integration with other systems.

Projection A metadata projection is a bidirectional XSLT transformation, meant to simplify integration of the Vidispine system with several third party systems.

Auto-projection The auto-projection is used to interact on metadata changes. For example, a change to one field may automatically trigger changes to other fields.

2.5.1 Projections

A projection consists of an incoming and an outgoing XSLT transformation.

- The incoming projection transforms information in some format to a format supported by Vidispine.

- The outgoing projection transforms information from Vidispine to a some other format.

When you use projections to transform item metadata then the outgoing projection will transform a *MetadataListDocument* and the incoming projection must produce a *MetadataDocument*.

Projection id

Projections are identified by a projection id of the regular expression form: `[_A-Za-z][_A-Za-z0-9]*`, maximum 32 characters. The projection is is case sensitive.

Example

This is an example of valid XSL:

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:vs="http://xml.v

<xsl:template match="/">
  <metadata>
  <item><xsl:value-of select="vs:MetadataListDocument/vs:item/@id"/></item>
    <xsl:for-each select="vs:MetadataListDocument/vs:item/vs:metadata/vs:timespan/vs:field">
      <metadataField>
        <name><xsl:value-of select="vs:name"/></name>
        <xsl:for-each select="vs:value">
          <value><xsl:value-of select="."/></value>
        </xsl:for-each>
      </metadataField>
    </xsl:for-each>
  </metadata>
</xsl:template>
</xsl:stylesheet>
```

2.5.2 XSLT 2.0

New in version 4.2.

XSL Transformations version 2.0 (http://www.w3.org/TR/xslt20/) are supported. Remember to specify the correct version in the stylesheet.

2.5.3 Job Information

New in version 4.2.

It is possible to access job information in the XSLT. This is done by adding the element `<vs:vsXSLTVersion>2</vs:vsXSLTVersion>` (`xmlns:vs="http://xml.vidispine.com/schema/vidispine'` at the global level of the XSLT. When the `xsltVersion` option is set, the actual input to the transformation is no longer a `MetadataListDocument`, but an `ExportInformationDocument`. The new input contains two element:

`metadataList` The same as the old input to the transformation.

`job` The current job, as outputted by `/API/job/{jobid}?metadata=true`.

Example

The following example uses both XSLT v2.0 and the job information:

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="2.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:vs="http://xml.v
    <vs:vsXSLTVersion>2</vs:vsXSLTVersion>
    <xsl:template match="/">
        <root>
            <job>
                <xsl:value-of select="vs:ExportInformationDocument/vs:job/vs:jobId/text()"/>
            </job>
            <custom>
                <xsl:for-each select="vs:ExportInformationDocument/vs:job/vs:data[vs:key='custom']/vs
                    <data>
                        <xsl:value-of select="."/>
                    </data>
                </xsl:for-each>
            </custom>
        </root>
    </xsl:template>
</xsl:stylesheet>
```

2.5.4 Auto-projection rules

The auto projection is used to interact on metadata changes. For example, a change to one field may automatically trigger changes to other fields.

An *AutoProjectionRuleDocument* contains of four parts: `<step>`, `<description>`, `<inputFilters>` and `<triggers>`.

Defining a rule

MetadataWrapperDocument

During the projection, a temporary structure called "*MetadataWrapperDocument*" is created for manipulation.

A *MetadataWrapperDocument* contains some of the fields below, depending on the values of `inputFilters` in *AutoProjectionRuleDocument* :

`metadata`	The new incoming item metadata
`oldMetadata`	The old metadata of the item
`shapeMetadata`	The new incoming shape metadata
`shape`	The shape list of the item
`bulkyMetadata`	The new incoming bulky metadata of the item or shape
`oldBulkyMetadata`	The old bulky metadata of the item

Projection steps

Multiple projection steps can be defined in different `<step>`, with their execution order, description, and script/XSLT respectively. Please note that `<script>` and `<xslt>` are used to hold JavaScript and XSLT respectively and each step can only contain one of them.

Example:

```
<step>
  <order>1</order>
  <description>step1 description</description>
  <script>...</script>
</step>
<step>
  <order>2</order>
  <description>step2 description</description>
  <xslt>...</xslt>
</step>
```

Input filters

Input filter defines which information should goes into the *MetadataWrapperDocument* during the projection. There are two kinds of filters: `inputFilter` and `bulkyMetadataKeysRegex`

Legal values of `inputFilter` are

`oldMetadata`	Add old metadata of the item into the *MetadataWrapperDocument*
`shapeDocument`	Add old shape metadata of the item into the *MetadataWrapperDocument*

All bulky metadata of the item whose key matches the pattern defined in `bulkyMetadataKeysRegex` will go into *MetadataWrapperDocument*. Multiple filters are allowed.

Example:

```
<inputFilters>
  <inputFilter>oldMetadata</inputFilter>
  <inputFilter>shapeDocument</inputFilter>
  <bulkyMetadataKeysRegex>.*</bulkyMetadataKeysRegex>
</inputFilters>
```

Rule triggers

Rule triggers defines what kinds of metadata update triggers this rule. They are:

`itemMetadata`	Rule triggered if there is an item metadata update
`shapeMetadata`	Rule triggered if there is a shape metadata update
`bulkyMetadata`	Rule triggered if there is a bulky metadata update

Multiple triggers are allowed.

```
<triggers>
  <trigger>itemMetadata</trigger>
  <trigger>shapeMetadata</trigger>
</triggers>
```

2.5.5 Auto-projection using JavaScript

A JavaScript projection is created by including the JavaScript in the `script` element of *AutoProjectionRuleDocument*. Vidispine is using Rhino (https://developer.mozilla.org/en-US/docs/Rhino) as the JavaScript engine

A number of global variables are defined for the script to use:

- api
- helper

- wrapper

The api object

Please see *The api object*.

The helper object

The helper object contains some convenient functions for generating a new metadata object.

`helper.`**`createMetadata`**`()`
Returns a new *MetadataType*.

`helper.`**`createMetadataTimespan`**`(`*start*, *end*`)`
Returns a new *MetadataType*.Timespan.

Arguments

- **start** (*string*) – The start timecode.
- **end** (*string*) – The end timecode.

`helper.`**`createMetadataGroup`**`(`*name*`)`
Returns a new *MetadataGroupValueType*.

Arguments

- **name** (*string*) – The name of the group.

`helper.`**`generateMetadataField`**`(`*name*, *value*`)`
Returns a new *MetadataFieldValueType*.

Arguments

- **name** (*string*) – The name of the field.
- **value** (*string*) – The field value.

`helper.`**`metadataToStr`**`(`*metadata*`)`
Translate a metadata object to a string.

Arguments

- **metadata** – *MetadataType*

`helper.`**`log`**`(`*obj*`)`
Write the value of `obj.toString()` to the server log.

The following example script

```
var metadata = helper.createMetadata();
var timespan = helper.createMetadataTimespan("0", "100");
var group = helper.createMetadataGroup("mrk_marker");
var field1 = helper.createMetadataField("mrk_color", "red");
group.getField().add(field1);
timespan.getGroup().add(group);
metadata.getTimespan().add(timespan);
```

will generate a metadata object like this:

```
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="0" end="100">
    <group>
      <name>mrk_marker</name>
      <field>
        <name>mrk_color</name>
        <value>red</value>
      </field>
    </group>
  </timespan>
</MetadataDocument>
```

The wrapper object

The wrapper object represents the *MetadataWrapperDocument* during the projection. Below are available functions:

`wrapper.`**`getMetadata`**`()`
Get the new incoming item metadata.

Returns *MetadataType*.

`wrapper.`**`getOldMetadata`**`()`
Get the old metadata of the item.

Returns *MetadataListType*.

`wrapper.`**`getShapeMetadata`**`()`
Get the new incoming shape metadata.

Returns *SimpleMetadataType*.

`wrapper.`**`getShape`**`()`
Get the shape list of the item.

Returns List<*ShapeType*>.

`wrapper.`**`getBulkyMetadata`**`()`
Get the new incoming bulky metadata of the item/shape.

Returns *BulkyMetadataType*.

`wrapper.`**`getOldBulkyMetadata`**`()`
Get the old bulky metadata of the item.

Returns *BulkyMetadataType*.

`wrapper.`**`getOldBulkyMetadata`**`()`
Get the old bulky metadata of the item.

Returns *BulkyMetadataType*.

`wrapper.`**`setMetadata`**`(`*value*`)`
Assign a new metadata to the wrapper document.

Arguments

- **value** – *MetadataType*

There are two ways to apply projection results to an item:

1. If the rule is triggered by an item metadata update, one should manipulate the object reference returned by `wrapper.getMetadata()` directly. Because Vidispine will take that object as the projection result.

2. If the rule is triggered by a shape metadata update or bulky metadata update, one should use the `api` object to update the item metadata:

```
var metadata = helper.createMetadata();
...
var xml = helper.metadataToStr(metadata);
var id = wrapper.getTargetId();
var result = api.path("item/" + id + "/metadata").input(xml, "application/xml").put();
```

2.5.6 Auto-projection using XSLT

A XSLT projection is created by including the XSL script in the `xsl` element of *AutoProjectionRuleDocument*.

The transformation result could either be a *MetadataDocument* or *MetadataWrapperDocument*. If the result is a *MetadataWrapperDocument*, the value of `metadata` element will be used as the projection result.

During a shape/bulky metadata update, one need to set up another step using the JavaScript `api` object to update the item metadata.

Example:

```
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:vs="http://xml.v
    <xsl:template match="/">
        <MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
            <timespan start="-INF" end="+INF">
                <xsl:for-each select="vs:MetadataWrapperDocument/vs:metadata/vs:timespan/vs:field">
                    <field>
                        <name>
                            <xsl:value-of select="vs:name"/>
                        </name>
                        <value><xsl:value-of select="vs:value"/>+projection</value>
                    </field>
                </xsl:for-each>
            </timespan>
        </MetadataDocument>
    </xsl:template>
</xsl:stylesheet>
```

2.6 Metadata migrations

Vidispine has support for migrating metadata to adhere to a new structure. For example, you might have changed the group hierarchies in your metadata schema, and want to migrate old items and collections to the new schema. This is done by posting a migration definition. Vidispine will then automatically go through all the metadata in the system and migrate it.

2.6.1 Migration operations

There are a number of operations available for metadata migrations:

- **Move** This is used to move a field or a group from one position in the hierarchy to another.
- **Rename** This can be used to rename fields. Note that the new name must already be defined as a metadata field in the system, and the data types of the old and new fields must be compatible (e.g. a string field cannot be renamed to a date field, since it could cause invalid values to be introduced)

- **Delete** Used to delete a field or a group from a metadata hierarchy.

2.6.2 Migration definition

Migrations are defined using XML (or JSON). Here is an example of a migration containing all of the above operations:

```
<MetadataSchemaMigrationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <move type="field">
    <from>
      <group>
        <name>Film</name>
        <field>
          <name>actor</name>
        </field>
      </group>
    </from>
    <to>
      <group>
        <name>Film</name>
        <group>
          <name>Personnel</name>
        </group>
      </group>
    </to>
  </move>
  <rename>
    <from>
      <group>
        <name>Film</name>
          <field>
            <name>internal_title</name>
          </field>
      </group>
    </from>
    <to>production_id</to>
  </rename>
  <delete type="group">
    <target>
      <group>
        <name>Film</name>
        <group>
          <name>Soundtrack</name>
        </group>
      </group>
    </target>
  </delete>
</MetadataSchemaMigrationDocument>
```

The above migration would perform three operations:

- A move operation on any `actor` field that is located in the `Timespan > Film` group. It would instead be placed in `Timespan > Film > Personnel` group.
- A rename operation. It would rename any `internal_title` field located in the `Timespan > Film` group. It would rename it to `production_id`.
- A delete operation which would delete any group matching `Timespan -> Film -> Soundtrack`.

2.7 Subtitles

Vidispine supports adding subtitles to an item. They can then for example be exported to Final Cut. Subtitles can also be used with sequences and can be included in the video when a sequence is rendered.

2.7.1 Subtitle metadata fields and groups

To add subtitles to a Vidispine item, the metadata field group `stl_subtitle` must be used. The group should be placed within a `timespan` corresponding to the in- and out timecodes the subtitles should be displayed. Within this group, the following fields can be set:

- `stl_text`. This sets the actual text which should be displayed. Multiple lines are delimited by a line feed character.
- `stl_justification`. Determines the justification of multiple lines of text.

  `left` all lines are aligned to left border of text bounding box

  `center` all lines are aligned in center of text bounding box

  `right` all lines are aligned to right border of text bounding box
- `stl_xrelative`. Horizontal position of base point relative to full video frame. (New in 4.2.6.)

  0.0 left border

  1.0 right border
- `stl_yrelative`. Vertical position of base point relative to full video frame. (New in 4.2.6.)

  0.0 top border

  1.0 bottom border
- `stl_horizontalbase`. Horizontal position of base point relative to text bounding box. (New in 4.2.6.)

  0.0 (or `left`) base point is left border of bounding box.

  0.5 (or `center`) base point is center of bounding box.

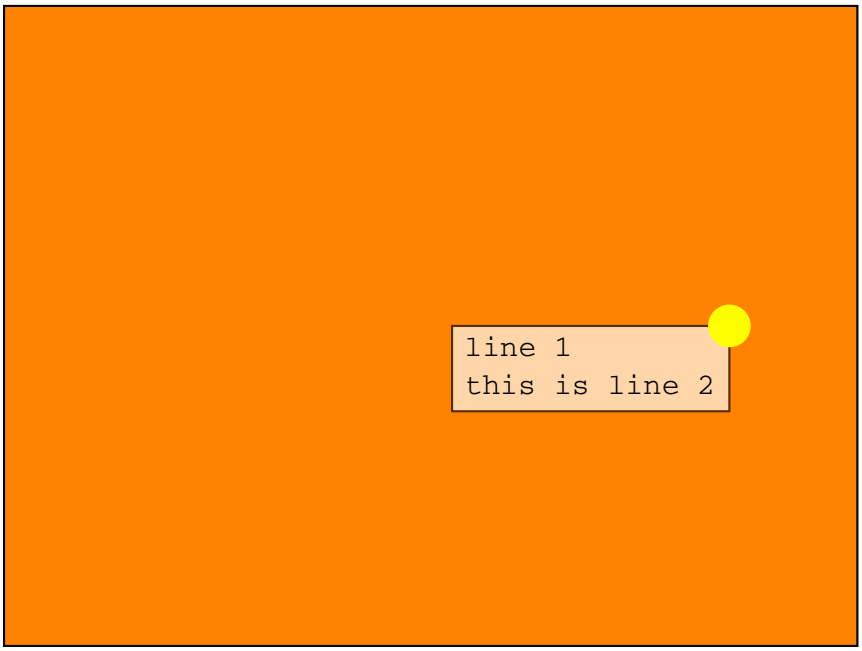
  1.0 (or `right`) base point is right border of of bounding box.
- `stl_verticalbase`. Vertical position of base point relative to text bounding box. (New in 4.2.6.)

  0.0 (or `top`) base point is top border of of bounding box.

  0.5 (or `middle`) base point is middle of bounding box.

  1.0 (or `bottom`) base point is bottom border of bounding box.
- `stl_sizerelative`. Height of font relative to full video frame.

Example



- stl_justification=left
- stl_xrelative=0.9
- stl_yrelative=0.5
- stl_horizontalbase=right
- stl_verticalbase=top

The subtitle language can be extracted from the `.stl` file itself or set using `jobmetadata`, key `subtitleLanguage`; `jobmetadata` has a higher priority.

Example

```
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="10@PAL" end="100@25">
    <group>
      <name>stl_subtitle</name>
      <field><name>stl_justification</name><value>left</value></field>
      <field><name>stl_vertical</name><value>6</value></field>
      <field><name>stl_text</name><value>some text&#13;&#10;actually two lines</value></field>
    </group>
  </timespan>
</MetadataDocument>
```

2.7.2 Rendering subtitles in a sequence

New in version 4.0.

If you have a sequence attached to an item in Vidispine the subtitle metadata can be included in the output file. To do this, you need to use a shape tag where `<burnSubtitles>true</burnSubtitle>` is set in the `<video>` element. Note that overlapping subtitle timespans are not allowed and will cause the render job to fail.

Example

Let's say we have an item VX-811 which has a sequence attached to it, and the following metadata:

```
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  ...
  <timespan start="72140@PAL" end="72260@PAL">
    <group>
      <name>stl_subtitle</name>
      <field><name>stl_justification</name><value>center</value></field>
      <field><name>stl_text</name><value>No, I am your father.</value></field>
    </group>
  </timespan>
  <timespan start="72320@PAL" end="72490@PAL">
    <group>
      <name>stl_subtitle</name>
      <field><name>stl_justification</name><value>center</value></field>
      <field><name>stl_text</name><value>No... that's not true!&#13;&#10;That's impossible!</value><
    </group>
  </timespan>
  ...
</MetadataDocument>
```

And we have the following shape-tag called MP4_512_SUB:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <codec>aac</codec>
    <bitrate>96000</bitrate>
  </audio>
  <video>
    <scaling>
      <width>512</width>
      <height>288</height>
    </scaling>
    <codec>h264</codec>
    <bitrate>2000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <burnSubtitles>true</burnSubtitles>
  </video>
</TranscodePresetDocument>
```

Then a render job is started using:

```
POST /item/VX-811/sequence/render?tag=MP4_512_SUB
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine"><jobId>VX-1436</jobId><user>admin</use
```

This will render the sequence and include any subtitle metadata as subtitles in the output video.

2.7.3 TTML support

Subtitles for an item can also be retrieved in TTML format using *Export to TTML*.

```
GET /item/{id}/metadata/export/ttml
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<tt xmlns:ns2="http://www.w3.org/ns/ttml#styling" xmlns="http://www.w3.org/ns/ttml" xmlns:ns4="http:/
  <head>
    <metadata>
      <ns6:documentMetadata>
        <ns6:documentTargetAspectRatio>4:3</ns6:documentTargetAspectRatio>
        <ns6:documentTotalNumberOfSubtitles>11</ns6:documentTotalNumberOfSubtitles>
        <ns6:documentMaximumNumberOfDisplayableCharacterInAnyRow>40</ns6:documentMaximumNumberOfDispl
        <ns6:documentStartOfProgramme>00:00:00:00</ns6:documentStartOfProgramme>
        <ns6:documentCountryOfOrigin>GB</ns6:documentCountryOfOrigin>
        <ns6:documentPublisher>Institut fuer Rundfunktechnik   </ns6:documentPublisher>
      </ns6:documentMetadata>
    </metadata>
    <styling>
      <style xml:id="textCenter" ns2:textAlign="center"/>
      <style xml:id="defaultStyle" ns2:fontFamily="monospaceSansSerif" ns2:fontSize="1c 1c" ns2:lineH
      <style xml:id="whiteOnblackDH" ns2:fontSize="1c 2c" ns2:color="white" ns2:backgroundColor="blac
    </styling>
    <layout>
      <region xml:id="bottom" ns2:origin="10% 10%" ns2:extent="80% 80%" ns2:displayAlign="after" ns2
      <region xml:id="top" ns2:origin="10% 10%" ns2:extent="80% 80%" ns2:displayAlign="before" ns2:pa
    </layout>
  </head>
  <body>
    <Change to 'iv' xml:id="SGN1" style="defaultStyle">
      <p region="top" style="textCenter" begin="00:00:00:00" end="00:00:02:10">
        <br/>
        <span style="whiteOnblackDH">two-line</span>
        <br/>
        <span style="whiteOnblackDH">top</span>
      </p>
      <p region="top" style="textCenter" begin="00:00:02:14" end="00:00:04:21">
        <br/>
        <span style="whiteOnblackDH">one-line top</span>
      </p>
      ...
    </div>
  </body>
</tt>
```

2.8 Examples

2.8.1 Creating fields/groups, modifying and moving metadata

Let's say that we have an item that contains a sports game. We want to record the goals that have occurred within the game. To do this we have the triple (time, team, player), where the time is the real-world time when the goal took place, the player that scored and the team the player plays for.

Creating the metadata fields

First to create the field for time, we choose the data type "date" since we want it to be indexed, but we will use it as temporal metadata so it is not applicable to be a sortable field.

```
PUT /metadata-field/sport_time
Content-Type: application/xml

<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <type>date</type>
</MetadataFieldDocument>
```

As for creating the team and the player, we use the same reasoning above, with the exception of that we want a string instead

```
PUT /metadata-field/sport_team
Content-Type: application/xml

<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <type>string</type>
</MetadataFieldDocument>

PUT /metadata-field/sport_player
Content-Type: application/xml

<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <type>string</type>
</MetadataFieldDocument>
```

Creating the metadata field group

With the fields created we now want a way to group these fields together so we create a field group called "goal".

```
PUT /metadata-field/field-group/goal
```

Now we simply add the fields, created above, to the group.

```
PUT /metadata-field/field-group/goal/sport_time

PUT /metadata-field/field-group/goal/sport_team

PUT /metadata-field/field-group/goal/sport_player
```

Retrieving the group:

```
GET /metadata-field/field-group/goal

<MetadataFieldListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <field sortable="false">
      <name>sport_time</name>
      <type>date</type>
   </field>
   <field sortable="false">
      <name>sport_player</name>
      <type>string</type>
   </field>
   <field sortable="false">
      <name>sport_team</name>
      <type>string</type>
   </field>
</MetadataFieldListDocument>
```

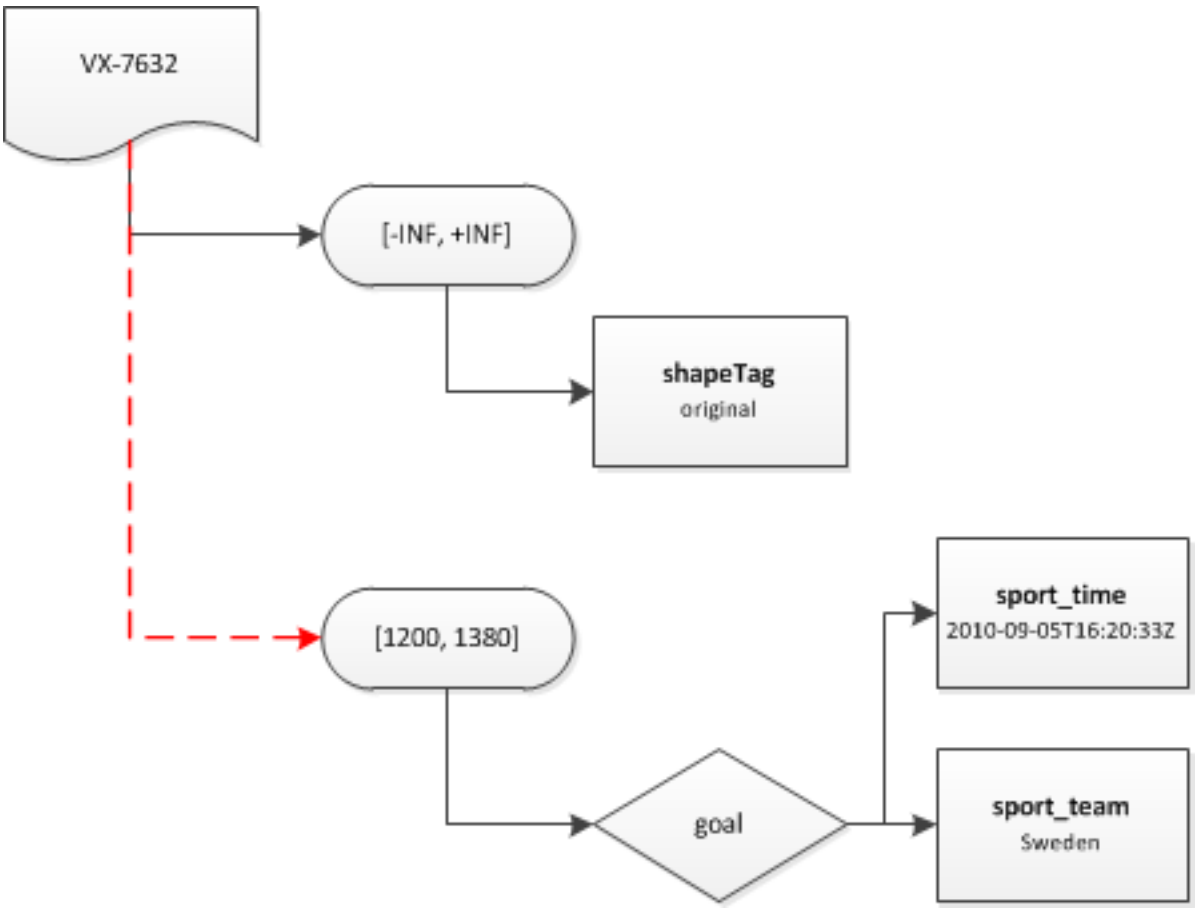
Modifying metadata

Let's say that the item VX-7632 contains two goals that occurred during a game that matches the triples (time='2010-09-05T16:20:33Z', team='Sweden', player='Pete') and (time='2010-09-05T16:42:05Z', team='Germany', player='Bob'). Within the item the first goal can be seen between the time codes (1200, 1380) and the second goal between the time codes (2700, 2940).

Each step will contain a diagram, where the dashed red line illustrates the semantics of the request being performed.

Adding the first goal

Adding the first goal without adding the player:

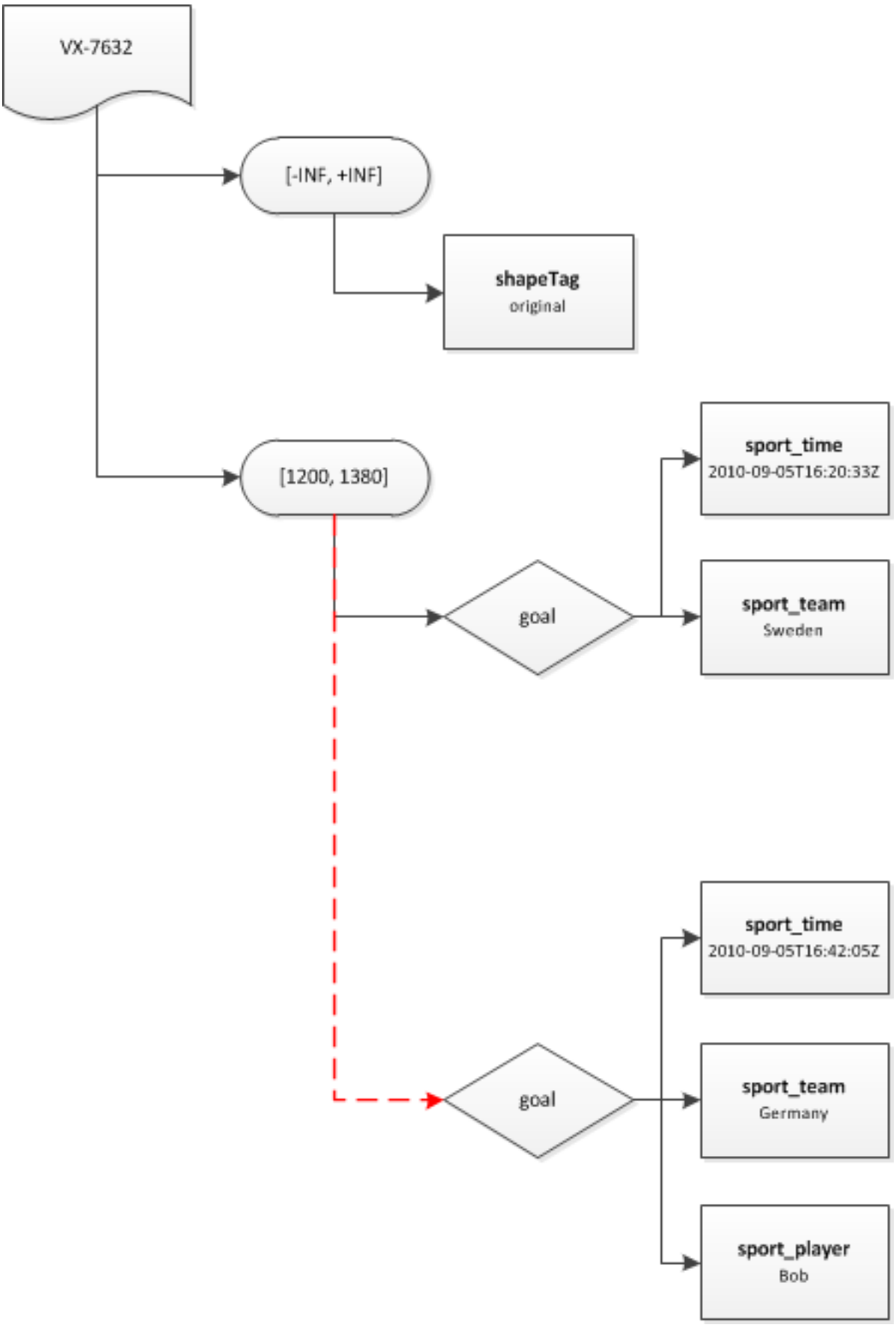



```
PUT /item/VX-7632/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="1200" end="1380">
      <group mode="add">
         <name>goal</name>
         <field>
            <name>sport_time</name>
            <value>2010-09-05T16:20:33Z</value>
         </field>
         <field>
            <name>sport_team</name>
```

```
            <value>Sweden</value>
          </field>
        </group>
    </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <item id="VX-7632">
        <metadata>
            <revision>VX-16295,VX-16296,VX-16299</revision>
            <timespan end="1380" start="1200">
                <group change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" uuid=
                    <name>goal</name>
                    <field change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" u
                        <name>sport_time</name>
                        <value change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admi
                    </field>
                    <field change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" u
                        <name>sport_team</name>
                        <value change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admi
                    </field>
                </group>
            </timespan>
            <timespan end="+INF" start="-INF">
                <field change="VX-16295" timestamp="2010-09-08T11:00:15.833+02:00" user="system" uuid
                    <name>shapeTag</name>
                    <value change="VX-16295" timestamp="2010-09-08T11:00:15.833+02:00" user="system"
                </field>
            </timespan>
        </metadata>
    </item>
</MetadataListDocument>
```

Adding the second goal

Adding the second goal, accidentally to same timespan as the first goal:

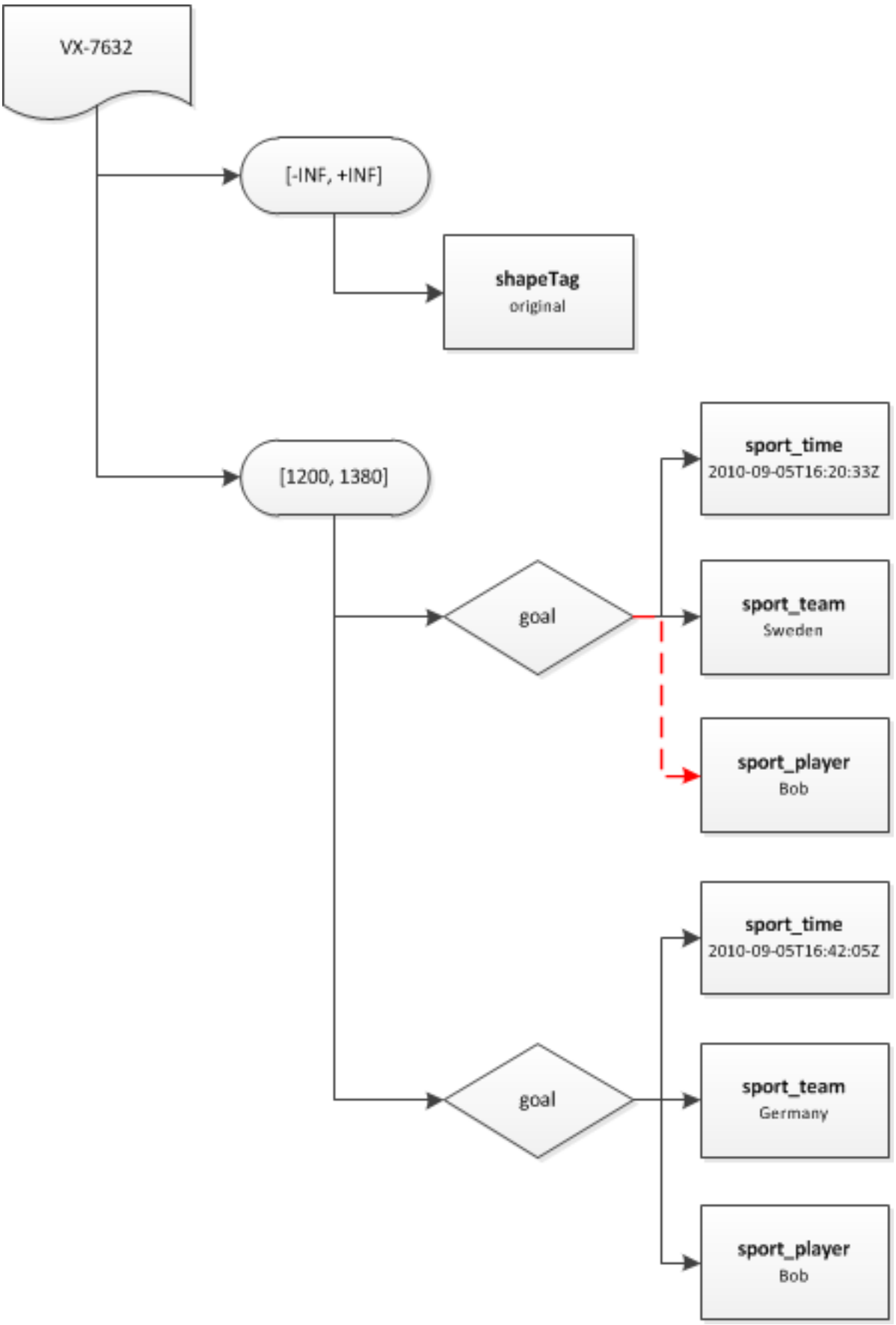

VX-7632
[-INF, +INF]
shapeTag
original
[1200, 1380]
sport_time
2010-09-05T16:20:33Z
goal
sport_team
Sweden
sport_time
2010-09-05T16:42:05Z
goal
sport_team
Germany
sport_player
Bob

```
PUT /item/VX-7632/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="1200" end="1380">
      <group mode="add">
         <name>goal</name>
         <field>
            <name>sport_time</name>
            <value>2010-09-05T16:42:05Z</value>
         </field>
         <field>
            <name>sport_team</name>
            <value>Germany</value>
         </field>
         <field>
            <name>sport_player</name>
            <value>Bob</value>
         </field>
      </group>
   </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <item>
        <metadata>
            <revision>VX-16295,VX-16296,VX-16299,VX-16300</revision>
            <timespan end="1380" start="1200">
                <group change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" uuid=
                    <name>goal</name>
                    <field change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" u
                        <name>sport_time</name>
                        <value change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admi
                    </field>
                    <field change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" u
                        <name>sport_team</name>
                        <value change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admi
                    </field>
                </group>
                <group change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" uuid=
                    <name>goal</name>
                    <field change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" u
                        <name>sport_team</name>
                        <value change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admi
                    </field>
                    <field change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" u
                        <name>sport_player</name>
                        <value change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admi
                    </field>
                    <field change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" u
                        <name>sport_time</name>
                        <value change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admi
                    </field>
                </group>
            </timespan>
            <timespan end="+INF" start="-INF">
                <field change="VX-16295" timestamp="2010-09-08T11:00:15.833+02:00" user="system" uuid
                    <name>shapeTag</name>
```

```
                    <value change="VX-16295" timestamp="2010-09-08T11:00:15.833+02:00" user="system"
                </field>
            </timespan>
        </metadata>
    </item>
</MetadataListDocument>
```

Modifying the first goal

Adding the missing player to first goal:

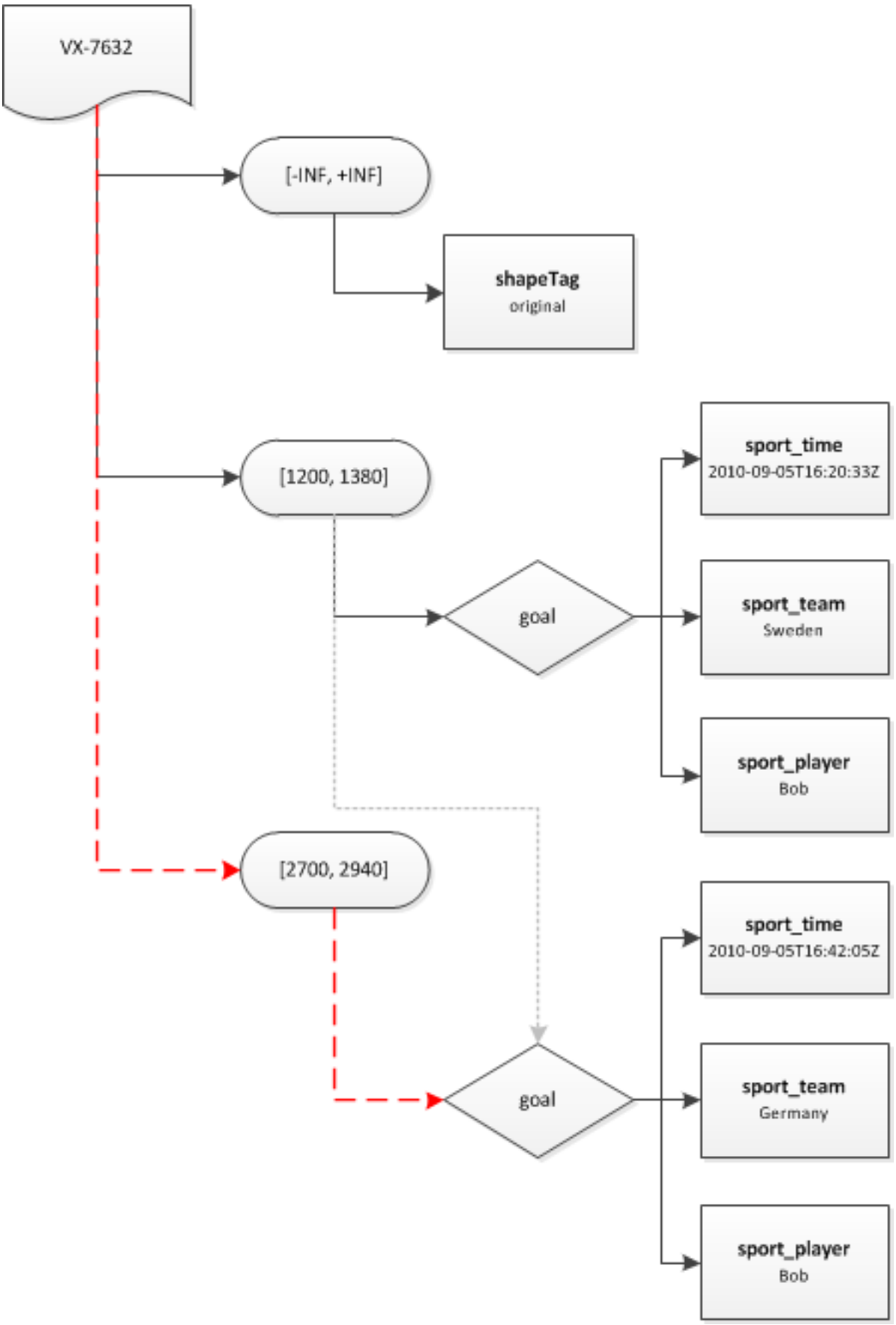

VX-7632
[-INF, +INF]
shapeTag
original
[1200, 1380]
goal
sport_time
2010-09-05T16:20:33Z
sport_team
Sweden
sport_player
Bob
goal
sport_time
2010-09-05T16:42:05Z
sport_team
Germany
sport_player
Bob

```
PUT /item/VX-7632/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="1200" end="1380">
      <group uuid="1f89d35d-02b6-4871-aa17-62c5ed4992f4">
         <name>goal</name>
         <field mode="add">
            <name>sport_player</name>
            <value>Pete</value>
         </field>
      </group>
   </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <item>
        <metadata>
            <revision>VX-16301,VX-16295,VX-16296,VX-16299,VX-16300</revision>
            <timespan end="1380" start="1200">
                <group change="VX-16301" timestamp="2010-09-08T15:41:22.212+02:00" user="admin" uuid=
                    <name>goal</name>
                    <field change="VX-16301" timestamp="2010-09-08T15:41:22.212+02:00" user="admin" u
                        <name>sport_player</name>
                        <value change="VX-16301" timestamp="2010-09-08T15:41:22.212+02:00" user="admi
                    </field>
                    <field change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" u
                        <name>sport_time</name>
                        <value change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admi
                    </field>
                    <field change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admin" u
                        <name>sport_team</name>
                        <value change="VX-16299" timestamp="2010-09-08T15:36:01.836+02:00" user="admi
                    </field>
                </group>
                <group change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" uuid=
                    <name>goal</name>
                    <field change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" u
                        <name>sport_team</name>
                        <value change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admi
                    </field>
                    <field change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" u
                        <name>sport_player</name>
                        <value change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admi
                    </field>
                    <field change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admin" u
                        <name>sport_time</name>
                        <value change="VX-16300" timestamp="2010-09-08T15:38:28.715+02:00" user="admi
                    </field>
                </group>
            </timespan>
            <timespan end="+INF" start="-INF">
                <field change="VX-16295" timestamp="2010-09-08T11:00:15.833+02:00" user="system" uuid
                    <name>shapeTag</name>
                    <value change="VX-16295" timestamp="2010-09-08T11:00:15.833+02:00" user="system"
                </field>
            </timespan>
        </metadata>
```

```
    </item>
</MetadataListDocument>
```

Moving metadata

Since the second is placed in the wrong timespan it can be corrected by moving it.


VX-7632
[-INF, +INF]
shapeTag
original
[1200, 1380]
sport_time
2010-09-05T16:20:33Z
goal
sport_team
Sweden
sport_player
Bob
[2700, 2940]
sport_time
2010-09-05T16:42:05Z
goal
sport_team
Germany
sport_player
Bob

```
PUT /item/VX-7632/metadata/move?start=2700&end=2940&uuid=0e9a54eb-0b90-4ed9-ac68-d2cb5d7abc73
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <revision>VX-16301,VX-16295,VX-16296,VX-16299,VX-16300</revision>
    <timespan start="1200" end="1380">
        <group uuid="1f89d35d-02b6-4871-aa17-62c5ed4992f4" user="admin" timestamp="2010-09-08T15:41:2
            <name>goal</name>
            <field uuid="e374df6f-deb5-4d5e-bfea-d1c2ae6df9aa" user="admin" timestamp="2010-09-08T15
                <name>sport_player</name>
                <value uuid="dbb77bcb-c3e5-4d9e-90a6-3114eca1d091" user="admin" timestamp="2010-09-08
            </field>
            <field uuid="915b6023-f374-4432-832c-a2c48c1efb56" user="admin" timestamp="2010-09-08T15
                <name>sport_time</name>
                <value uuid="cce8f89a-a220-4e53-8734-5831a3a4eb77" user="admin" timestamp="2010-09-08
            </field>
            <field uuid="d9d9b21c-171d-402b-878d-cefa5b3f9727" user="admin" timestamp="2010-09-08T15
                <name>sport_team</name>
                <value uuid="7493df98-be67-4fb6-97fe-a89b9e501207" user="admin" timestamp="2010-09-08
            </field>
        </group>
    </timespan>
    <timespan start="-INF" end="+INF">
        <field uuid="7c5c49f9-c740-4b0a-93e8-81490fb65799" user="system" timestamp="2010-09-08T11:00
            <name>shapeTag</name>
            <value uuid="9c2945d5-3480-436e-bfbb-2444e586961d" user="system" timestamp="2010-09-08T11
        </field>
    </timespan>
    <timespan start="2700" end="2940">
        <group uuid="0e9a54eb-0b90-4ed9-ac68-d2cb5d7abc73" user="admin" timestamp="2010-09-08T15:38:2
            <name>goal</name>
            <field uuid="4e5ffd77-ab59-46fe-9939-47ab61df7523" user="admin" timestamp="2010-09-08T15
                <name>sport_team</name>
                <value uuid="2a64f141-b3aa-4686-973c-7c254a0b77cb" user="admin" timestamp="2010-09-08
            </field>
            <field uuid="2444055e-40e0-49b6-8493-0f68df82f01a" user="admin" timestamp="2010-09-08T15
                <name>sport_player</name>
                <value uuid="441404a4-882c-458a-af88-b2fad592d71c" user="admin" timestamp="2010-09-08
            </field>
            <field uuid="01d54bbb-d01e-4c6f-880e-1c1cbc4e598e" user="admin" timestamp="2010-09-08T15
                <name>sport_time</name>
                <value uuid="71dd57e3-4a39-41ad-b351-78c4bc20ac0b" user="admin" timestamp="2010-09-08
            </field>
        </group>
    </timespan>
</MetadataDocument>
```

The metadata has now been corrected and contain the information that we wanted to record.

2.8.2 Defining a metadata schema

Based on the types in the *metadata example* we can specify a schema.

```
PUT /metadata-schema
Content-Type: application/xml

<MetadataSchemaDocument xmlns="http://xml.vidispine.com/schema/vidispine">
```

```
    <!-- The organization is optional and can exist [0,n] outside of groups -->
    <group name="organization" min="0" max="-1">
        <!-- An organization has one or more employees -->
        <group name="employee" min="1" max="-1" reference="false"/>
        <!-- An organization has one or more projects -->
        <group name="project" min="0" max="-1" reference="false"/>
        <!-- An organization has exactly one name -->
        <field name="example_name" min="1" max="1" reference="false"/>
    </group>

    <!-- A project cannot exist outside of a group -->
    <group name="project" min="0" max="0">
        <!-- A project has at least one employee, which has to be referenced -->
        <group name="employee" min="1" max="-1" reference="true"/>
        <!-- A project has exactly one name -->
        <field name="example_name" min="1" max="1" reference="false"/>
        <!-- A project has exactly one location element (it still can have more than one value) -->
        <field name="example_location" min="1" max="1" reference="false"/>
    </group>

    <!-- An employee cannot exist outside of a group -->
    <group name="employee" min="0" max="0">
        <!-- An employee has exactly one name -->
        <field name="example_name" min="1" max="1" reference="false"/>
        <!-- An employee might have a title -->
        <field name="example_title" min="0" max="1" reference="false"/>
    </group>
</MetadataSchemaDocument>
```

Retrieving the metadata of a new item:

```
GET /item/VX-11/metadata

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item id="VX-11">
    <metadata>
      <revision>VX-47</revision>
      <timespan end="+INF" start="-INF">
        <field change="VX-47" timestamp="2010-12-17T13:15:04.495+01:00" user="system" uuid="0f4ec1a0-
          <name>shapeTag</name>
          <value change="VX-47" timestamp="2010-12-17T13:15:04.495+01:00" user="system" uuid="99a471e
        </field>
      </timespan>
    </metadata>
  </item>
</MetadataListDocument>
```

Validating it:

```
PUT /item/VX-11/metadata/validate

200 OK
```

Adding the organization in the example:

```
PUT /item/VX-11/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
```

```
<timespan start="-INF" end="+INF">
  <group>
    <name>organization</name>
    <field>
      <name>example_name</name>
      <value>My organization</value>
    </field>
    <group>
      <name>employee</name>
      <field>
        <name>example_name</name>
        <value>Bob</value>
      </field>
      <field>
        <name>example_title</name>
        <value>CEO</value>
      </field>
    </group>
    <group uuid="A">
      <name>employee</name>
      <field>
        <name>example_name</name>
        <value>Pete</value>
      </field>
      <field>
        <name>example_title</name>
        <value>Director</value>
      </field>
    </group>
    <group uuid="B">
      <name>employee</name>
      <field>
        <name>example_name</name>
        <value>Andrew</value>
      </field>
      <field>
        <name>example_title</name>
        <value>Editor</value>
      </field>
    </group>
    <group>
      <name>project</name>
      <field>
        <name>example_name</name>
        <value>Movie project</value>
      </field>
      <field>
        <name>example_location</name>
        <value>London</value>
        <value>Berlin</value>
      </field>
      <group>
        <name>employee</name>
        <reference>A</reference>
      </group>
      <group>
        <name>employee</name>
        <reference>B</reference>
```

```
        </group>
      </group>
    </group>
  </timespan>
</MetadataDocument>
```

```
200 OK
```

Adding an employee without a name to the organization:

```
PUT /item/VX-11/metadata
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
    <group>
      <name>organization</name>
      <group mode="add">
        <name>employee</name>
        <field>
          <name>example_title</name>
          <value>Developer</value>
        </field>
      </group>
    </group>
  </timespan>
</MetadataDocument>

HTTP/1.1 400 An invalid parameter was entered
Context: metadata-schema
Reason: Too few of member example_name in group organization: 0 vs 1
```

Alternate way of creating a schema

A schema can also be built when creating and modifying metadata field groups. To create the schema above, the following three requests can be made.

```
PUT /metadata-field/field-group/employee
Content-Type: application/xml

<MetadataFieldGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <schema min="0" max="0"/>
  <field>
    <name>example_name</name>
    <schema min="1" max="1" reference="false"/>
  </field>
  <field>
    <name>example_title</name>
    <schema min="0" max="1" reference="false"/>
  </field>
</MetadataFieldGroupDocument>

PUT /metadata-field/field-group/project
Content-Type: application/xml

<MetadataFieldGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <schema min="0" max="0"/>
```

```
  <field>
    <name>example_name</name>
    <schema min="1" max="1" reference="false"/>
  </field>
  <field>
    <name>example_location</name>
    <schema min="1" max="1" reference="false"/>
  </field>
  <group>
    <name>employee</name>
    <schema min="1" max="-1" reference="true"/>
  </group>
</MetadataFieldGroupDocument>

PUT /metadata-field/field-group/organization
Content-Type: application/xml

<MetadataFieldGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <schema min="0" max="-1"/>
  <field>
    <name>example_name</name>
    <schema min="1" max="1" reference="false"/>
  </field>
  <group>
    <name>employee</name>
    <schema min="1" max="-1" reference="false"/>
  </group>
  <group>
    <name>project</name>
    <schema min="0" max="-1" reference="false"/>
  </group>
</MetadataFieldGroupDocument>
```

CHAPTER

THREE

COLLECTIONS AND LIBRARIES

This chapter describes collections and libraries, two concepts in Vidispine used to group items. The main differences between collections and libraries are:

- Collections can have metadata attached to them, libraries cannot.
- Collections can contain sub collections and can also contain libraries. Libraries can only contain items.
- Libraries can have dynamic content. You can attach an item search document to a library, and have it automatically update its content based on which items match the query.

Both can be assigned access controls and storage rules that apply to the items, and for collections, libraries and sub collections in them.

3.1 Collections

Collections are generic storage containers and can for example be used as:

- A sort of folder structure, where files are mapped as items and sub folders are mapped as sub collections in the hierarchy.
- A simple container for a number of items and collections.
- A representation of a Non Linear Editor (NLE) "bin".
- A representation of an entity in your domain.

3.1.1 Creating collections

Create a collection using `POST /collection`. Once created you can add items, libraries or other collections to it, add metadata or grant access to other users by adding access controls.

```
POST /collection?name=Pending%20review
```

```
<CollectionDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <loc>http://localhost:8080/API/collection/VX-16</loc>
  <id>VX-16</id>
  <name>Pending review</name>
</CollectionDocument>
```

3.1.2 Searching for collections

You can search for collections in the same way as you can *search for items*.

```
PUT /collection
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>Pending</text>
</ItemSearchDocument>

<CollectionListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <hits>1</hits>
  <collection>
    <id>VX-16</id>
    <name>Pending review</name>
  </collection>
</CollectionListDocument>
```

Searching for collections with specific items

New in version 4.2.4.

Use an `item` query to find collections that contain specific items. For example, to find collections with a title containing 'Peach' or collections with items with similar titles:

```
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="OR">
    <field>
      <name>title</name>
      <value>Peach</value>
    </field>
    <item>
      <field>
        <name>title</name>
        <value>Peach</value>
      </field>
    </item>
  </operator>
</ItemSearchDocument>
```

See *Joins on collection search*.

Searching in a collection

You can also search for *items* in a collections using `PUT /collection/(collection-id)/item`. An alternative way of finding only items that exist in a collection is to query on the `__collection` transient metadata field. This is also more flexible as it allows you to find items in multiple collections, or using it as part of a more complex query.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>__collection</name>
    <value>VX-16</value>
  </field>
  <operator operation="NOT">
    <field>
      <name>__collection</name>
      <value>VX-1</value>
    </field>
```

```
  </operator>
</ItemSearchDocument>
```

The difference between searching for items in a collection using `PUT /collection/(collection-id)/item` and `PUT /item` with a query on `__collection` is the default ordering, which is by collection order and by creation date, respectively.

There is also the `__ancestor_collection` transient metadata field that allows you to find items that exist in a collection or in a sub collection of that collection.

Listing collections that contain an item

If you want to see which collections contain an item, you can either look at the item metadata and look at the "`__collection`" field. There will be one entry for each collection that includes the item. This, however, does not take into account which collections a user has read access to. In order to see which collections contain an item with read permissions honored you can use `GET /item/(item-id)/collection`

3.1.3 Ordering collections

The entities in the collection are ordered, and new entities will be added at the end of the list. Use `POST /collection/(collection-id)/order` to change the order. The order will be enforced in requests to `GET /collection/(collection-id)` and `GET /collection/(collection-id)/item` for example.

To get the same ordering as in `GET /item` you will have to explicitly sort on the creation date, the `created` field, which is the default.

3.1.4 Collections as folders

As mentioned in the introduction, collections could be used to represent folders, as a way for your users to organize their items.

This could be an entirely logical grouping, or correspond to the actual directory structure of the items files on the file system. To achieve the later, you can mark the collections as folder mapped collections. See *Folder mapped collections* in the API reference on how to set this up.

3.1.5 Representative thumbnails

New in version 4.0.

A new metadata field has been added to the collection metadata: `representativeItems`. This field can contain a list of items that will represent this collection. Vidispine will automatically get the representative thumbnails of each item and add a transient metadata field on the collection metadata.

For example:

```
<field>
  <name>representativeItems</name>
  <value>VX-653</value>
  <value>VX-657</value>
  <value>VX-658</value>
  <value>VX-659</value>
</field>
```

will add those values to the metadata:

```
<field>
    <name>__representativeThumbnails</name>
    <value>/API/thumbnail/VX-2/VX-653;version=0/2100@NTSC30</value>
    <value>/API/thumbnail/VX-2/VX-657;version=0/0@24000</value>
    <value>/API/thumbnail/VX-2/VX-658;version=0/3300297@30000</value>
    <value>/API/thumbnail/VX-2/VX-659;version=0/500@PAL</value>
</field>
<field>
    <name>__representativeThumbnailsNoAuth</name>
    <value>/APInoauth/thumbnail/VX-2/VX-653;version=0/2100@NTSC30?hash=9dfb29f8159532b1d3a119462e64c0
    <value>/APInoauth/thumbnail/VX-2/VX-657;version=0/0@24000?hash=bb75e99dd2f1f961810c85fab99cd75f</
    <value>/APInoauth/thumbnail/VX-2/VX-658;version=0/3300297@30000?hash=696fa412368ccc0ac11fc30018ea
    <value>/APInoauth/thumbnail/VX-2/VX-659;version=0/500@PAL?hash=0737888e52cb4e66041ba7d1e58b22be</
</field>
```

In combination with *Stitching images*, this can be used to easily create and cache a collection thumbnail without having to track the item update notifications.

3.2 Libraries

Whereas collections are more of a generic container for entities, the strength of libraries lies in the ability to have the library content dynamically updated based on a query.

Use libraries to for example:

- Manage the current search performed by a user.
- To represent saved searches created by your users.
- To implement dynamic storage rules or access control restrictions based on the metadata of items.

3.2.1 Creating libraries

When searching for items you can create a library containing the items matching the query by specifying `result=library`. If used together with `;autoRefresh=true` you can create a "saved search". When accessing the library later, its content will return

```
PUT /item;updateMode=REPLACE;autoRefresh=TRUE?result=library HTTP/1.1
Accept: application/xml
Content-type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>project_priority</name>
    <value>urgent</value>
  </field>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <library>VX*19</library>
  <item>VX-13</item>
  <item>VX-14</item>
  <item>VX-71</item>
</ItemListDocument>
```

Check the library settings to find out how a library was created, or why a library contains a specific set of items, for example when using self-refreshing libraries.

```
GET /library/VX*67/settings

<LibrarySettingsDocument>
   <id>VX*67</id>
   <username>admin</username>
   <updateMode>REPLACE</updateMode>
   <autoRefresh>true</autoRefresh>
   <query>
      <field>
      <name>originalWidth</name>
      <range>
         <value>640</value>
         <value>720</value>
      </range>
      </field>
   </query>
</LibrarySettingsDocument>
```

Libraries without a query

Libraries can also be created using `POST /library`. You will need to specify the items that the library should contain, but this can also be changed afterwards.

```
POST /library HTTP/1.1
Content-Type: application/xml

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-250"/>
   <item id="VX-1000"/>
</ItemListDocument>

<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <uri>VX*48</uri>
</URIListDocument>
```

Check the library settings and you will see that it does not specify a query, in comparison to libraries created when searching.

3.2.2 Automatic deletion

Libraries will be automatically deleted after having not being accessed for a period of 24 hours. There are some exception to this rule. If any of the following conditions apply, the library will not be automatically deleted:

- The library is part of a collection
- The library has a storage rule set
- The library has a site rule set
- The library has `autoRefresh=true`
- The library has an `updateFrequencey` set.

3.2.3 Self-refreshing libraries

Libraries can be set to keep their contents up to date with the queries in two ways (see the table below). The two different methods can either be used together or separately. Neither of these modes will have an affect on transient libraries, as they will always be kept up to date.

Name	Values	Description
`autoRefresh`	`true` or `false` (default)	If `true`, items will be tracked as their metadata is modified.
`updateFrequency`	positive integer	If set, the library will be rebuilt periodically. The integer describes the minimum time, in minutes, between updates.

Having `autoRefresh` set means that metadata changes will have an almost immediate effect on libraries. But it has the drawback that libraries using variables, such as a timestamp search containing ranges with the "NOW" variable, will not be updated unless a user changes its metadata. To remedy this libraries can be updated periodically. From a performance point of view though, it is more efficient to check if an item belongs to a library then to refresh an entire library – so period updates should be done with care.

> **Caution:** *Queries involving variables*
> Using variables in queries, e.g. the use of the word "NOW" when searching timestamped metadata, is not reliable for libraries unless they are either set as TRANSIENT or they are set to be updated periodically.

Update modes

MERGE In this mode any items that matches query will be added to the library without removing any existing items.

REPLACE Unlike MERGE, this mode will also remove items that no longer matches the query.

TRANSIENT This mode has the same semantics as REPLACE, with some important differences. It only contains items on a logical basis, so instead of simply retrieving its items it needs to perform a search every time its contents is being requested. This leads to a faster creation time than REPLACE, but slower lookup and cannot be used to *restrict item access*.

Example

Creating a library that contains items created within the last 5 days.

```
PUT /item;autoRefresh=false;updateFrequency=60;updateMode=REPLACE?result=library
Content-Type: application/xml

<ItemSearchDocument>
   <field>
      <name>created</name>
      <range>
         <value>NOW-5DAYS</value>
         <value>NOW</value>
      </range>
   </field>
</ItemSearchDocument>
```

Restrictions

At most 999 self-refreshing libraries can exist in the system simultaneously.

If using the default Solr configuration, it is a good idea to set the `useLucene` property to speed up matching of self-refreshing libraries.

3.2.4 Restricting access to items

Setting access controls on a library will cascade down on the items. This means that libraries can be used to batch update access controls on a set of items. Note that this does not work on libraries with `updateMode TRANSIENT`.

3.2.5 Storage rules on libraries

You can set storage rules on libraries. All items belonging to the library will then be affected by the rule. Note that this does not work on libraries with `updateMode TRANSIENT`. Having a storage rule on a library will also prevent it from being automatically deleted.

CHAPTER

FOUR

SHAPES, COMPONENTS AND TRANSCODING

4.1 Item shapes

A shape is a physical representation of an item. Each shape is made up out of one or more components that correspond to content of a file.

4.1.1 Shapes

Each item will typically have at least a single shape, the *original* shape, along with one or more alternate representations of the asset.

- For video, this can be a low-resolution version, a web version and a mobile version. Another example is if you have multiple versions of the same video, but each with different audio or text tracks. Those versions would then be separate shapes.
- For text this could be the word processor document format, a PDF or a plain text version.

You will find that the information extracted and presented for video and audio files is richer than what's provided for other type of files, such as PDFs or zip files. For the former information about the container and video- and audio streams is provided, while the latter is typically presented as a shape with a binary component.

To distinguish between different shapes you can use tags. These are described in the *Shape tags and presets* section.

Importing shapes

Vidispine will create an `original` shape when an item is first *imported*. To import additional shapes to an item, for example files created by an external transcoder, then that can be done by creating a `SHAPE_IMPORT` job.

A shape import job will:

- Transfer content to a Vidispine supervised storage.
- Media check the imported file.
- Create a new shape and add it to the item.

Use the *item shape resource* to import new shapes. An image could for example be imported to and item, and tagged with the `large-jpg` tag, using:

```
POST /item/VX-12/shape?uri=file:///srv/ftp/the-doctor.jpg&tag=large-jpg
```

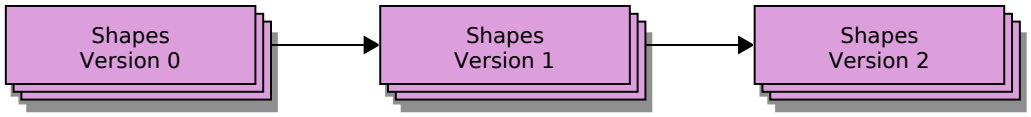
```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-169826</jobId>
  <user>admin</user>
  <started>2014-07-03T18:21:09.795Z</started>
```

```
  <status>READY</status>
  <type>SHAPE_IMPORT</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

4.1.2 Essence versions

If you have assets that change over time, and wish to track all of those versions, then you can use an item to represent the asset and then import each update to the asset as a new essence version on the item.

Vidispine will return the shapes and thumbnails for the latest essence version by default, but you can of course select to have older versions returned as well.



Creating a new essence version

New essence versions are created using `ESSENCE_VERSION` jobs. See *Creating thumbnails and posters* for the different ways of starting such jobs. For example, creating a new essence version for an item by providing the location of the new asset.

```
POST /item/VX-37/shape/essence?uri=file:///home/lisa/render-1.jpg
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-39</jobId>
  <user>lisa</user>
  <started>2014-07-03T06:52:45.114Z</started>
  <status>READY</status>
  <type>ESSENCE_VERSION</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

This new image will then show up as the original shape of the item, and will be used as the input on any future transcodes. By viewing the shape we can see that this shape belongs to a new essence version. Note that the essence version numbers are zero-based.

```
<ItemDocument xmlns="http://xml.vidispine.com/schema/vidispine" id="VX-37">
  <shape>
    <id>VX-38</id>
    <essenceVersion>1</essenceVersion>
    <tag>original</tag>
    <mimeType>image/jpeg</mimeType>
    <containerComponent>...</containerComponent>
    <videoComponent>...</videoComponent>
    <metadata>
      <field>
        <key>originalFilename</key>
        <value>render-1.jpg</value>
      </field>
    </metadata>
```

```
  </shape>
</ItemDocument>
```

We can also see that there's a new essence version by retrieving the essence versions for the items.

```
GET /item/VX-37/shape/version
```

```
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>http://localhost:8080/API/item/VX-37/shape/version/1</uri>
  <uri>http://localhost:8080/API/item/VX-37/shape/version/0</uri>
</URIListDocument>
```

4.1.3 Transcoding

An item can be transcoded either when it is *imported* or afterwards by using the item transcode resource. When transcoding an already imported item a `TRANSCODE` job will be used. A transcode job will:

- Create any new entities, such as the new files that are about to appear.
- Create a transcoding task and submits it to a transcoder.
- Media check the new files and update the item.

The difference between transcoding while and after importing is that the former can be done in parallel to any transfers that may be needed, while the latter is a serial task as the input files, the files from the original shape of the item, should already exist on a storage managed by Vidispine.

Starting transcode jobs

The transcodes to perform are identified using *shape tags* that contains the *transcode preset* that the defines the desired outputs.

Use the `tag` parameter when starting an import job to transcode an item while it is being imported. See *Transcoding* for more information on the subject.

```
POST /import?uri=file:///srv/incoming/media.mov&tag=lowres,android
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-169819</jobId>
  <user>admin</user>
  <started>2014-07-03T07:20:14.220Z</started>
  <status>READY</status>
  <type>PLACEHOLDER_IMPORT</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

To transcode an existing item, use the *transcode resource* with the `tag` parameter as above.

```
POST /item/VX-191440/transcode?tag=lowres,android
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-169820</jobId>
  <user>admin</user>
  <started>2014-07-03T07:22:47.900Z</started>
  <status>READY</status>
  <type>TRANSCODE</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

Transcode progress

The progress of the transcode is available from the job, both as progress on the transcode step and as key-value metadata on the job.

```
<task id="237">
  <step>200</step>
  <attempts>0</attempts>
  <status>STARTED_ASYNCHRONOUS</status>
  <timestamp>2014-07-03T07:27:58.030Z</timestamp>
  <description>Transcoding.</description>
  <progress total="100" unit="percent">75.0</progress>
  <subStep>
    <timestamp>2014-07-03T07:22:48.051Z</timestamp>
    <description>Starting transcode</description>
  </subStep>
</task>
```

And from the job metadata, where you will find the `transcode*` job metadata, that also includes the estimated time left and the progress expressed in the media time.

```
<data>
  <key>transcodeDurations</key>
  <value>8000000@1000000</value>
</data>
<data>
  <key>transcodeMediaTimes</key>
  <value>288000@48000</value>
</data>
<data>
  <key>transcodeProgress</key>
  <value>75.0</value>
</data>
<data>
  <key>transcodeEstimatedTimeLeft</key>
  <value>6.2072</value>
</data>
<data>
  <key>transcodeWallTime</key>
  <value>18.6216</value>
</data>
```

4.1.4 Thumbnailing

Thumbnails are by default created if an item is transcoded while being imported. To create thumbnails or posters for an item, use a `THUMBNAIL` job. A thumbnail job will:

- Create a thumbnailing task and submit it to a transcoder.
- Update the representative thumbnail of the item.

The location of the representative thumbnail is stored in the item metadata, so if you wish to present a number of items to a user, along with a thumbnail of each item, then it is recommended that you read the thumbnails from the `representativeThumbnail` metadata field instead of fetching all thumbnails for all items. There is also the `representativeThumbnailNoAuth` field that provides the thumbnail at a location that does not require authentication.

```
<timespan start="-INF" end="+INF">
  <field uuid="b578cfe7-cf8b-476f-866f-7027e0dba542" user="system" timestamp="2014-07-03T09:23:24.172
    <name>representativeThumbnail</name>
    <value uuid="a159d13c-4a70-4e6a-83fd-36a7b0ef25af" user="system" timestamp="2014-07-03T09:23:24.1
  </field>
  <field uuid="12c6553d-7473-42bf-95b4-875afd1cac74" user="system" timestamp="2014-07-03T10:46:40.728
    <name>representativeThumbnailNoAuth</name>
    <value uuid="9b70a04c-8755-426b-9446-3f4857cb87e1" user="system" timestamp="2014-07-03T10:46:40.7
  </field>
</timespan>
```

Starting a thumbnail job

Use the *thumbnail resource* to create thumbnail jobs for an item.

```
POST /item/VX-191440/thumbnail?createThumbnails=true
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-169821</jobId>
  <user>admin</user>
  <started>2014-07-03T08:46:09.960Z</started>
  <status>READY</status>
  <type>THUMBNAIL</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

The thumbnails will be uploaded to the item as the job progresses. You can find them by inspecting the item. For example:

```
GET /item/VX-191440?content=thumbnail
```

```
<ItemDocument xmlns="http://xml.vidispine.com/schema/vidispine" id="VX-191440">
  <thumbnails>
    <uri>http://localhost:8080/API/thumbnail/VX-2/VX-191440;version=0/0@PAL</uri>
  </thumbnails>
</ItemDocument>
```

If you wish to see which thumbnails were created by a specific thumbnail job, then you can check the `thumbnails` job metadata.

```
<data>
  <key>thumbnails</key>
  <value>{"[TC:0@PAL]":"http://localhost:8080/API/thumbnail/VX-2/VX-191440;version=0/0@25"}</value>
</data>
```

4.1.5 Analyzing media

Shapes can be analyzed to detect for example detect cropping and silence. See *Shape analysis*.

4.2 Shape tags and presets

Shapes can be tagged in order to retrieve their file contents easily using *Retrieving item information*. The system adds certain tags to shapes automatically during certain operations, such as an import job. Predefined tags can be seen in the table below.

Tag	Description
original	The first shape that was created for the item.

While shape tags serve as a "name tag" for shapes, they also contain the recipe for how new shape instances with the shape tag should be constructed, or transcoded, from other shapes. This is defined using a *transcode preset* that defines the format, codec, bitrate etc of the shapes.

4.2.1 Transcode presets

The transcode preset specifies the output format, codec and encoding settings that should be used when transcoding. You can either

- Use one of the built in *preset templates*.
- Use one of the presets *defined in this documentation*.
- Define your own preset. See *Transcode preset elements* for more information.

Preset templates

New in version 4.0.3.

Vidispine comes with some preset templates built in. These can be added to the system by making a `PUT` request to `APIinit/preset-templates`. These template tags have names that begin with double underscore and cannot be overwritten (Also, shape tags with names starting with double underscore cannot be added to the system).

4.2.2 Scripting transcode presets

Transcode presets can be made dynamic by assigning a JavaScript to them. Made available to the script will be the shape that is going to be transcoded as well as the unmodified preset. The shape can be used as input to determine for example the original resolution of the media. For output the preset can be modified before it is sent to the transcoder. An overview is given in the table below.

Mode	Identifier	XML Type	Java Type
input	`jobMetadata`	-	`java.util.Map<String, String>`
input	`metadata`	*MetadataType*	`com.vidispine.generated.MetadataType`
input	`shape`	*ShapeType*	`com.vidispine.generated.ShapeType`
output	`preset`	*TranscodePreset-Type*	`com.vidispine.generated.TranscodePresetType`

The given data types are generated from the XML schema and belong to the package `com.vidispine.generated`. They follow JavaBean standard, i.e. getters and setters for their attributes.

Caution: *Lists of integer*
When adding integers of a list, simply using integer literals will not work. Instead `java.lang.Integer` must be used, for example: `list.add(new java.lang.Integer(5));`

Examples

A preset that only produces two audio channels in the output

First we create a preset with only the formats and codecs set.

```
PUT /shape-tag/h264
Content-Type: application/xml

<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <codec>aac</codec>
  </audio>
  <video>
    <codec>h264</codec>
  </video>
</TranscodePresetDocument>

200 OK
```

Then we add the script

```
PUT /shape-tag/h264/script
Content-Type: application/javascript

// Retrieve the channel count: <ShapeDocument><audioComponent><channelCount>
var channelCount = shape.getAudioComponent().get(0).getChannelCount();

// If we have more than two channels, limit it to the first two:
if (channelCount > 2) {
    // Adding elements to <TranscodePresetDocument><audio><channel>
    preset.getAudio().getChannel().add(new java.lang.Integer(0));
    preset.getAudio().getChannel().add(new java.lang.Integer(1));
}

200 OK
```

The result preset will then look like this if the input shape has more than two audio channels:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <codec>aac</codec>
    <channel>0</channel>
    <channel>1</channel>
  </audio>
  <video>
    <codec>h264</codec>
  </video>
</TranscodePresetDocument>
```

Scaling the output depending on the input

Using the same shape-tag as in the example above we can use the following script.

```
// Retrieve the width and height of the input
var width = shape.getVideoComponent().get(0).getResolution().getWidth();
var height = shape.getVideoComponent().get(0).getResolution().getHeight();

if (width == 720 && height == 608) {
    // Create the scaling element
    var scaling = new com.vidispine.generated.ScalingType();
    preset.getVideo().setScaling(scaling);
```

```
    // Crop 32 pixels from the top
    scaling.setTop(32);

    // Set the desired display aspect ratio
    var targetDar = new com.vidispine.generated.AspectRatioType();
    targetDar.setHorizontal(4);
    targetDar.setVertical(3);
    scaling.setTargetDAR(targetDar);

    // Set the desired resolution
    scaling.setWidth(480);
    scaling.setHeight(360);
} else if (height > 700) {
    // Create the scaling element
    var scaling = new com.vidispine.generated.ScalingType();
    preset.getVideo().setScaling(scaling);

    // Set the desired display aspect ratio
    var targetDar = new com.vidispine.generated.AspectRatioType();
    targetDar.setHorizontal(16);
    targetDar.setVertical(9);
    scaling.setTargetDAR(targetDar);

    // Set the desired resolution
    scaling.setWidth(640);
    scaling.setHeight(360);
} else {
    // Create the scaling element
    var scaling = new com.vidispine.generated.ScalingType();
    preset.getVideo().setScaling(scaling);

    // Set the desired display aspect ratio
    var targetDar = new com.vidispine.generated.AspectRatioType();
    targetDar.setHorizontal(4);
    targetDar.setVertical(3);
    scaling.setTargetDAR(targetDar);

    // Set the desired resolution
    scaling.setWidth(320);
    scaling.setHeight(240);
}
```

4.2.3 Transcode preset elements

This section highlights some of the settings and possibilities that are often useful when authoring a transcode preset.

Setting a preferred source tag

New in version 4.0.

It is possible to specify that another file than the original should be used as the source file when transcoding. This is done using the `preferredSourceTag` element.

Burning in the timecode in the video

New in version 4.0.

Vidispine can burn the timecode into the output video. To enable this, set the `burnTimecode` element to true within the `video` element.

Setting a maximum duration of a chunk in QuickTime files

New in version 4.1.

It is possible to specify a maximum duration for chunks in QuickTime files (MOV/MP4/3GPP). To set the duration add the `maxChunkDuration` element to the `TranscodePresetType`.

Example: setting the maximum chunk duration to 2 seconds

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <maxChunkDuration>
    <samples>50</samples>
    <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
    </timeBase>
  </maxChunkDuration>
  <audio>
    <codec>aac</codec>
    <bitrate>320000</bitrate>
  </audio>
  <video>
    <codec>h264</codec>
    <bitrate>500000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <resolution>
      <width>512</width>
      <height>288</height>
    </resolution>
  </video>
</TranscodePresetDocument>
```

Mixing audio channels

New in version 4.0.

It is possible to define advanced mappings between input and output audio channels. This is done using the `mix` element.

Example: mixing 5.1 audio into stereo

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <codec>aac</codec>
    <bitrate>128000</bitrate>
    <mix>
      <input channel="0" stream="1" gain="0.5"/>
      <input channel="1" stream="1" gain="1.0"/>
      <input channel="3" stream="1" gain="1.0"/>
      <input channel="5" stream="1" gain="1.0"/>
    </mix>
    <mix>
      <input channel="1" stream="1" gain="1.5"/>
      <input channel="2" stream="1" gain="1.0"/>
      <input channel="4" stream="1" gain="1.0"/>
      <input channel="5" stream="1" gain="1.0"/>
    </mix>
  </audio>
  <video>
    <scaling>
      <width>512</width>
      <height>288</height>
    </scaling>
    <codec>h264</codec>
    <bitrate>256000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
  </video>
</TranscodePresetDocument>
```

The value of the `stream` attribute can be deduced from the input shape. The `gain` attribute is expressed linearly, i.e. a value of 1.0 means a gain of 0 dB. Also, since the number of input channels will probably vary with different inputs, this functionality is best utilized in conjunction with the JavaScript functionality described below.

The `mix` element can also be used to insert silent audio channels in the output.

Example: adding two silent audio channels in output

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <codec>aac</codec>
    <bitrate>128000</bitrate>
    <mix silence="true"/>
    <mix silence="true"/>
  </audio>
  <video>
    <scaling>
      <width>512</width>
      <height>288</height>
    </scaling>
    <codec>h264</codec>
    <bitrate>256000</bitrate>
```

```
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
  </video>
</TranscodePresetDocument>
```

Splitting audio channels to mono files

New in version 4.1.

It is possible to split audio channels into separate mono audio files. And they can be *renamed according to their channel ids* .

Example: split specific channels

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>wav</format>
  <audio>
    <codec>pcm_s16le</codec>
    <channel>0</channel>
    <channel>3</channel>
    <channel>5</channel>
    <monoFile>true</monoFile>
  </audio>
  <video>
    <noVideo>true</noVideo>
  </video>
</TranscodePresetDocument>
```

Example: split all channels

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>wav</format>
  <audio>
    <codec>pcm_s16le</codec>
    <monoFile>true</monoFile>
    <allChannel>true</allChannel>
  </audio>
  <video>
    <noVideo>true</noVideo>
  </video>
</TranscodePresetDocument>
```

Splitting audio channels to different output files

New in version 4.1.1.

It is possible to split audio channels into files that contain more than one channels. And they can be *renamed according to their channel ids*.

Example

This preset below will produce three files:

1. A WAV file containing 1 audio stream with 2 channels.
2. A MOV file containing 2 audio streams, each stream has one channel.
3. A MP4 file containing only the video.

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <output>
      <format>wav</format>
      <codec>pcm_s24le</codec>
      <channel>0</channel>
      <channel>1</channel>
    </output>
    <output>
      <format>mov</format>
      <codec>aac</codec>
      <bitrate>320000</bitrate>
      <channel>2</channel>
      <channel>3</channel>
      <stream>1</stream>
      <stream>1</stream>
    </output>
  </audio>
  <video>
    <codec>h264</codec>
    <bitrate>1000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <resolution>
      <width>512</width>
      <height>288</height>
    </resolution>
  </video>
</TranscodePresetDocument>
```

Image overlays

One can overlay images on the output at specific positions and intervals by using the `overlay` element. Note that the image is overlaid as is and will not be scaled in any way, meaning that you may want to overlay different images depending on the output resolution. Specifying an overlay interval in an image preset is not supported. Only PNG overlays are supported.

Example: overlaying a logo

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  ...
  <overlay>
    <uri>http://example.com/logo.png</uri>
```

```
    <x>10</x>
    <y>30</y>
  </overlay>
</TranscodePresetDocument>
```

4.2.4 Image transcode settings

Image-to-image transcoding uses the same resolution settings etc. as video jobs. There are some custom settings that can be added in presets for certain image control. They are added using `setting` element inside the `video` element.

colorspace

Sets the color space to specified value. Valid values are `CIELab`, `CMY`, `CMYK`, `Gray`, `HCL`, `HCLp`, `HSB`, `HSI`, `HSL`, `HSV`, `HWB`, `Lab`, `LCH`, `LCHab`, `LCHuv`, `LMS`, `Log`, `Luv`, `OHTA`, `Rec601Luma`, `Rec601YCbCr`, `Rec709Luma`, `Rec709YCbCr`, `RGB`, `scRGB`, `sRGB`, `Transparent`, `XYZ`, `YCbCr`, `YDbDr`, `YCC`, `YIQ`, `YPbPr`, `YUV`.

profile

Sets a profile. Profiles must be installed on transcoder node (`/usr/share/color/icc`).

strip

If `true`, strip profile info. If `false`, do not strip profile.

density

Set the density (resolution) of the image. The format is `xRes[ "x" yRes] WHITESPACE ( "dpi" | "dpcm" )`. If only one value is set, the same resolution is used for x and y. By specifying `dpi` or `dpcm`, resolution can explicitly be set to mean pixels per inch or pixels per centimeter, respectively.

4.3 Common presets

It is not always straightforward to construct a transcode preset that result in output with the desired format. Here are some guidelines for some of the most common formats.

4.3.1 H264

The `codec` element should be set to `h264`. The default profile is Baseline. This can be overridden using the `preset` element. The following values are accepted:

- `baseline`
- `ipod`
- `main`
- `high`

There are also AVC-Intra specific profiles, see below.

Example

An MP4 using the Main profile:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio>
    <codec>mp3</codec>
    <framerate>
      <numerator>1</numerator>
      <denominator>44100</denominator>
    </framerate>
    <channel>0</channel>
    <channel>1</channel>
    <stream>2</stream>
  </audio>
  <video>
    <scaling>
      <width>1280</width>
      <height>720</height>
    </scaling>
    <codec>h264</codec>
    <bitrate>3000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <preset>main</preset>
  </video>
</TranscodePresetDocument>
```

4.3.2 AVC-Intra

To produce AVC-Intra output, the `preset` element should be set to `intra50` or `intra100` depending on desired output. Also add a setting of `codecTagString` to further specify the variant of AVC-Intra. The possible values are:

- `ai5p` – 50M 720p24/p30/p60
- `ai5q` – 50M 720p25/p50
- `ai56` – 50M 1080i60
- `ai55` – 50M 1080i50
- `ai53` – 50M 1080p24/p30
- `ai52` – 50M 1080p25
- `ai1p` – 100M 720p24/p30/p60
- `ai1q` – 100M 720p25/p50
- `ai16` – 100M 1080i60
- `ai15` – 100M 1080i50
- `ai13` – 100M 1080p24/p30
- `ai12` – 100M 1080p25

Example

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mov</format>
  <audio>
    <codec>pcm_s16le</codec>
    <framerate>
      <numerator>1</numerator>
      <denominator>48000</denominator>
    </framerate>
    <channel>0</channel>
    <channel>1</channel>
    <stream>2</stream>
  </audio>
  <video>
    <scaling>
      <width>1920</width>
      <height>1080</height>
    </scaling>
    <codec>h264</codec>
    <bitrate>100000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <gopSize>0</gopSize>
    <pixelFormat>yuv422p</pixelFormat>
    <preset>intra100</preset>
    <profile>CBR</profile>
    <setting>
      <key>codecTagString</key>
      <value>ai12</value>
    </setting>
  </video>
</TranscodePresetDocument>
```

4.3.3 ProRes

Set the `codec` element to `prores`. The `preset` element must also be set to one of the following values:

- `PR422HQ` – ProRes HQ
- `PR422` – ProRes 422
- `PR422LT` – ProRes LT
- `PR422Proxy` – ProRes Proxy
- `PR4444` – ProRes 4444

The ProRes encoder will use the field-order information that Vidispine can read from the input file. In the case that Vidispine has the wrong information, you can override it by adding a `setting` key-value to the `video` element in the *TranscodePresetDocument*. The `key` should be `interlace_flag` and value one of:

- `progressive`
- `top_first`
- `bottom_first`

Example

ProRes 422 LT:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mov</format>
  <audio>
    <codec>pcm_s16le</codec>
    <framerate>
      <numerator>1</numerator>
      <denominator>48000</denominator>
    </framerate>
    <channel>0</channel>
    <channel>1</channel>
    <stream>2</stream>
  </audio>
  <video>
    <scaling>
      <width>1920</width>
      <height>1080</height>
    </scaling>
    <codec>prores</codec>
    <bitrate>85000000</bitrate>
    <preset>PR422LT</preset>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
  </video>
</TranscodePresetDocument>
```

With `interlace_flag` set to `top_first`:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mov</format>
  <audio>
    <codec>pcm_s16le</codec>
    <framerate>
      <numerator>1</numerator>
      <denominator>48000</denominator>
    </framerate>
    <channel>0</channel>
    <channel>1</channel>
    <stream>2</stream>
  </audio>
  <video>
    <scaling>
      <width>1920</width>
      <height>1080</height>
    </scaling>
    <codec>prores</codec>
    <bitrate>85000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <preset>PR422LT</preset>
    <setting>
      <key>interlace_flag</key>
```

```
      <value>top_first</value>
    </setting>
  </video>
</TranscodePresetDocument>
```

4.3.4 XDCAM IMX-30/40/50

The `preset` element must be set to `imx30`, `imx40` or `imx50` depending on desired output. Also, a setting must be added specifying `codecTagString`. Accepted values are:

- `mx5p` – IMX-50
- `mx4p` – IMX-40
- `mx3p` – IMX-30

NTSC

To get NTSC output, there are a few changes that need to be made.

- The `framerate` should have a `numerator` of `1001` and a `denominator` of `30000`.
- The `scaling` element should have a `height` of `518`.
- Exchange the last letter of the `codedTagString` from `p` to `n` (i.e. `mx5p` to `mx5n`)

Example

IMX-50:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mxf_d10</format>
  <audio>
    <codec>pcm_s24le</codec>
    <channel>0</channel>
    <channel>1</channel>
    <channel>2</channel>
    <channel>3</channel>
    <stream>4</stream>
  </audio>
  <video>
    <scaling>
      <width>720</width>
      <height>608</height>
      <top>-32</top>
    </scaling>
    <codec>mpeg2video</codec>
    <bitrate>50000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <displayWidth>
      <numerator>720</numerator>
      <denominator>1</denominator>
    </displayWidth>
    <displayHeight>
```

```
      <numerator>576</numerator>
      <denominator>1</denominator>
    </displayHeight>
    <displayXOffset>
      <numerator>0</numerator>
      <denominator>1</denominator>
    </displayXOffset>
    <displayYOffset>
      <numerator>32</numerator>
      <denominator>1</denominator>
    </displayYOffset>
    <containerSAR>
      <horizontal>64</horizontal>
      <vertical>45</vertical>
    </containerSAR>
    <gopSize>0</gopSize>
    <pixelFormat>yuv422p</pixelFormat>
    <preset>imx50</preset>
    <setting>
      <key>codecTagString</key>
      <value>mx5p</value>
    </setting>
  </video>
</TranscodePresetDocument>
```

4.3.5 XDCAM HD422

The `format` element must be set to `mxf_ffmpeg`. There are also some settings that must be added, see example below. The `codecTagString` setting should be one of the following values:

- `xd54` – 720p24 50Mb/s CBR
- `xd55` – 720p25 50Mb/s CBR
- `xd59` – 720p60 50Mb/s CBR
- `xd5a` – 720p50 50Mb/s CBR
- `xd5b` – 1080i60 50Mb/s CBR
- `xd5c` – 1080i50 50Mb/s CBR
- `xd5d` – 1080p24 50Mb/s CBR
- `xd5e` – 1080p25 50Mb/s CBR
- `xd5f` – 1080p30 50Mb/s CBR

NTSC

To get NTSC output, set the `framerate` to have a `numerator` of `1001` and a `denominator` of `30000`, and use the appropriate `codecTagString` from the list above.

Example

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mxf_ffmpeg</format>
  <audio>
    <codec>pcm_s24le</codec>
    <channel>0</channel>
    <channel>1</channel>
    <channel>2</channel>
    <channel>3</channel>
    <stream>1</stream>
    <stream>1</stream>
    <stream>1</stream>
    <stream>1</stream>
  </audio>
  <video>
    <scaling>
      <width>1920</width>
      <height>1080</height>
    </scaling>
    <codec>mpeg2video</codec>
    <bitrate>50000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <pixelFormat>yuv422p</pixelFormat>
    <setting>
      <key>flags</key>
      <value>+ildct+ilme</value>
    </setting>
    <setting>
      <key>top</key>
      <value>1</value>
    </setting>
    <setting>
      <key>dc</key>
      <value>10</value>
    </setting>
    <setting>
      <key>qmin</key>
      <value>1</value>
    </setting>
    <setting>
      <key>lmin</key>
      <value>1*QP2LAMBDA</value>
    </setting>
    <setting>
      <key>rc_max_vbv_use</key>
      <value>1</value>
    </setting>
    <setting>
      <key>rc_min_vbv_use</key>
      <value>1</value>
    </setting>
    <setting>
      <key>minrate</key>
      <value>50000k</value>
    </setting>
    <setting>
```

```
      <key>maxrate</key>
      <value>50000k</value>
    </setting>
    <setting>
      <key>bufsize</key>
      <value>36408333</value>
    </setting>
    <setting>
      <key>bf</key>
      <value>2</value>
    </setting>
    <setting>
      <key>codecTagString</key>
      <value>xd5c</value>
    </setting>
  </video>
</TranscodePresetDocument>
```

4.3.6 DV

For DVCAM, DVCPRO and DVCPRO50, `codec` should be set to `dvvideo`, for DVCPRO HD, it should be `dv_100`. To get 16x9 aspect ratio, `targetDAR` must be set (see example below). The value of `pixelFormat` determines whether the output will be DV, DVCPRO or DVCPRO50.

Pixel format	Output
`yuv420p`	DVCAM
`yuv411p`	DVCPRO
`yuv422p`	DVCPRO50

NTSC

To get NTSC output the following changes should be made.

- The `framerate` should have a `numerator` of `1001` and a `denominator` of `30000`.
- The `scaling` should have a `height` of `480`.
- `codecTagString` should have a value of `dvpn`.

Example

16x9 DVCPRO:

```
<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>avi</format>
  <audio>
    <codec>pcm_s16le</codec>
    <framerate>
      <numerator>1</numerator>
      <denominator>48000</denominator>
    </framerate>
    <channel>0</channel>
    <channel>1</channel>
    <stream>2</stream>
  </audio>
```

```
  <video>
    <scaling>
      <width>720</width>
      <height>576</height>
      <targetDAR>
        <horizontal>16</horizontal>
        <vertical>9</vertical>
      </targetDAR>
    </scaling>
    <codec>dvvideo</codec>
    <bitrate>25000000</bitrate>
    <framerate>
      <numerator>1</numerator>
      <denominator>25</denominator>
    </framerate>
    <gopSize>0</gopSize>
    <pixelFormat>yuv411p</pixelFormat>
    <profile>CBR</profile>
    <setting>
      <key>codecTagString</key>
      <value>dvpp</value>
    </setting>
    <setting>
      <key>dtsmode</key>
      <value>pts</value>
    </setting>
  </video>
</TranscodePresetDocument>
```

4.3.7 DNxHD

The `codec` should be set to `dnxhd`.

4.3.8 RED

New in version 4.1.

Vidispine support RED as an input format so there is no special shape-tag settings that needs to be made. However, there are a few limitations and things to keep in mind.

Local file access

The transcoder needs to be able to read the RED file locally. Transcoder and Middleware needs to be running at the same machine.

Choosing an appropriate quality

New in version 4.2.

Demuxing of RED material is a very computational demanding task. Normal RED footage has a resolution of 4K or 5K. Decoding such a frame in full resolution and quality is sometimes a bit overkill. That is, when creating a lowres file in 640x360 resolution you can save a lot of time by decoding the RED footage in a lower resolution.

You can specify what decoding/demuxing quality the transcoder should use by setting the `demuxerSetting` element in your shape-tag:

```
<TranscodePresetDocument>
  <format>mp4</format>
  <audio>
      ...
  </audio>
  <video>
    ...
  </video>
  <demuxerSetting>
    <key>r3d_demuxer_quality</key>
    <value>full_premium</value>
  </demuxerSetting>
</TranscodePresetDocument>
```

Valid values for r3d_demuxer_quality is:

- `full_premium` - Full resolution and the best quality
- `half_premium` - Half of the width and height of the original resolution and the best quality
- `half_good` - Half of the width and height of the original resolution with good quality
- `quarter_good` - Quarter of the width and height of the original resolution with good quality
- `eight_good` - An eight of the width and height of the original resolution with good quality
- `sixteenth_good` - A sixteenth of the width and height of the original resolution with good quality

Multi-file RED clips

In case of multi-file RED clip the naming of the clips will be crucial. They should already be named (which they are as default):

```
<filename><index>.R3D
```

To preserve the filename of a RED file you can add a *filename script* to the storage where the RED files will be imported. For example:

```
PUT /API/storage/<storage-id>/metadata/filenameScript HTTP/1.1
Content-Type:text/plain

if (context.getExtension() != null && (context.getExtension() == "R3D" || context.getExtension() == "
    "VX-" + context.getOriginalFilename();
else
    context.getFileId() + "." + context.getExtension();
```

Then you need to import the clips into an *placeholder*, this way there will only be one transcoded file instead of X (X being the number of clips). For example:

```
POST /API/import/placeholder?container=0&video=2
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
    <field>
      <name>title</name>
      <value>My placeholder for RED files</value>
    </field>
```

```
  </timespan>
</MetadataDocument>

POST /API/import/placeholder/<placeholder-id>/video?uri=file:/REDTEST_001.R3D&tag=mp4
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
  </timespan>
</MetadataDocument>

POST /API/import/placeholder/<placeholder-id>/video?uri=file:/REDTEST_002.R3D&tag=mp4
Content-Type: application/xml

MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
  </timespan>
</MetadataDocument>
```

CHAPTER

FIVE

STORAGES AND FILES

5.1 Storages

Storages are where Vidispine will store any files that are ingested/created in the system. All files on a storage location will get an entry in the Vidispine database, containing state, file size, hash etc. This is to keep track of any file changes.

For information about files in storage, see *Files*.

5.1.1 Storages

Storage types

A storage must be designated a type, based on what type of operations are to be performed on the contained files. Operations in this context are transcode, move, delete, and destination (that is, placing new files here).

LOCAL A Vidispine specific storage, suitable for all operations. Note that LOCAL doesn't necessarily imply that the storage is physically local. It should however be a dedicated Vidispine storage. That is, files on such storages should not be written to/deleted by any external application.

SHARED A storage shared with another application, Vidispine will not create new files, nor perform any write operations here.

REMOTE A storage on a remote computer, files should be copied to a local storage before used.

EXTERNAL A storage placeholder.

ARCHIVE A storage meant for archiving, needs a plugin bean or a JavaScript, described in more detail at *Archive Integration*.

EXPORT Files are not monitored, but copy operations to here will create a file entry in the database.

Storage states

Storages will have one of the following states:

NONE Not used.

READY Operating normally.

OFFLINE No available storage method could be reached.

FAILED Currently not used in Vidispine.

DISABLED Currently not used in Vidispine.

EVACUATING Storage is being evacuated.

EVACUATED Evacuating process finished.

For more information about storage evacuation, see section on *Evacuating storages*.

Storage groups

Storages can be placed in named groups, called storage groups. These storage groups can then be used in *Storage rules* and *Quota rules*.

Storage capacity

When a storage is created a capacity can be specified. This is the total number of bytes that is freely available on the storage. The free capacity is calculated as `total capacity - sum(file sizes in database list)`. Note that this means that the size of `MISSING` and `LOST` files are included in the used capacity. If you do not expect a file with these states to return, it is best to *delete the file entity using the API*.

Auto-detecting the storage capacity

By setting the element `autoDetect` in the *StorageDocument* you can make Vidispine read the capacity from the file system. This only works if the storage has a storage method that points to the local file system, that is, a `file://` URI.

> **Warning:** Do not enable auto-detection for multiple storages located on the same device, as each storage will then have the capacity of the device. This means that storages may appear to have free space in Vidispine, when there is actually no space left on the device.

Storage cleanup

If you have used storage rules to control the placement of files on storages then you may have noticed that files have been copied to the storages selected by the rules, but that files on the source storages have not been removed.

This is by design. Vidispine prefers to keep multiple copies of a file, and only remove the files when a storage is about to become full. The storage high and low watermarks control when files should start to be removed, and when enough files have been removed and storage cleanup should stop.

For example, for a 1 TB storage with a high watermark at 80% and a low watermark at 40%, Vidispine will keep adding files to the storage until the usage exceeds 800 GB. Once that happens cleanup would occur. Files that are deletable, that is, that have a copy on another storage and that is not required to exist according to the storage rules, will be deleted. Cleanup will stop once the usage has reached 400 GB or when there are no more deletable files.

If this behavior is not desirable, then there are two options.

1. Update the storage rules to specify where files should *not* exist, using the `not` element. For example, using `<not><any/></not>`.

   ```
   <StorageRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
     <storageCount>1</storageCount>
     <storage>VX-122</storage>
     <not><any/></not>
   </StorageRuleDocument>
   ```

2. Set the high watermark on the storage to 0%. Updating the storage rules is preferred as storage cleanup will be triggered continuously if the high watermark is set at a low level.

Evacuating storages

If you would like to delete a storage, but you still have files there which are connected to items, you can first trigger an evacuation of the storage. This will cause Vidispine to attempt to delete redundant files, or move files to other storages. Once the evacuation is complete, the storage will get the state `EVACUATED`.

5.1.2 Storage methods

Methods are the way Vidispine talks to the storage. Every method has a base URL. See *Storage method URIs* for the list of supported schemes.

Retrieve a storage to check its status. The storage `state` shows if the storage is accessible to Vidispine. If a storage is *not* accessible, then its state will be `OFFLINE`. Check the `failureMessage` in the storage methods to find out why. The failure message will be the error from when the last attempt to connect to the storage was made, and will be available even when the storage comes back online again. Compare `lastSuccess` to `lastFailure` to determine if the error message is current or not.

If multiple methods are defined for one storage, it is important, in order to avoid inconsistencies, that they all point to the same physical location. E.g. a storage might have one file system method, and one HTTP method. The HTTP URL must point to the same physical location as the file system method.

Storage method examples

Here are some examples of valid storage methods:

- `file:///mnt/vidistorage/`
- `ftp://vidispine:pA5sw0rd!?@10.85.0.10/storage/`
- `azure://:%2ZmFuODl0MGg0MmJ5ZnZuczc5YmhndjkrZThodnV5Ymhqb2lwbW9lcmN4c2Rmc2Q0NThmdjQ0Mzc`

Method types

Methods can also be of different type. By default, the type is empty. Only those methods (with empty types) are used by Vidispine when doing file operations, the other methods are ignored, but can be returned, for example when requesting URLs in search results.

New in version 4.1: Credentials are encrypted. This means that passwords cannot be viewed through the API/server logs.

Auto method types

One exception is method type `AUTO`, or any method type with prefix `AUTO-`. When a file URL is requested, with such method type, the a no-auth URL will be created (with the method URL as base).

If there is no `AUTO` method defined, but a file URL is requested with method type `AUTO`, an implicit one will be used automatically.

```
GET /item/VX-2406?content=uri&methodType=AUTO
Accept: application/xml

<ItemDocument xmlns="http://xml.vidispine.com/schema/vidispine" id="VX-2406">
  <files>
    <uri>http://vs.example.com:8089/APInoauth/storage/VX-1/file/VX-6537/0.7354486788234469/VX-6537.mp
    <uri>http://vs.example.com:8089/APInoauth/storage/VX-1/file/VX-6536/0.7638025887084131/VX-6536.dv
```

```
  </files>
</ItemDocument>
```

The URL returned is only valid for the duration of `fileTempKeyDuration` minutes. The expiration timer is reset whenever the URL is used in a new operation (e.g. HEAD (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.4) or GET (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.3)).

Method metadata

In addition to select method types, method metadata can be given as instructions for the URI returned. Two metadata values are definied:

format Specifies if any special format of the URI should be returned. By default, the normal URI is returned. Two values are defined:

SIGNED Returns a `http` URI that points contains a signed URI directly to Azure or S3 storage. If a signed URI cannot be generated from the underlying (default) URI, no URI is returned.

SIGNED-AUTO New in version 4.2.9.

As above, but if no URI can be generated, an `AUTO` URI (see above) is returned.

expiration Sets the expiration time of the signed URI, in minutes. If not specified, the expiration time is 60 minutes, unless `azureSasValidTime` is set.

```
GET /item/VX-206?content=uri&methodMetadata=format=SIGNED-AUTO
Accept: application/xml

<ItemDocument xmlns="http://xml.vidispine.com/schema/vidispine" id="VX-206">
  <files>
    <uri>https://vstest.s3.amazonaws.com/VX-362.mp4?Expires=1439545041&amp;AWSAccessKeyId=AKIAJCCXQRY
    <uri>http://vs.example.com:8089/APInoauth/storage/VX-1/file/VX-336/0.7638025117084131/VX-336.dv</
  </files>
</ItemDocument>
```

Parent directory management

For local file systems (method is using a `file://` URI), Vidispine will by default remove empty parent directories when deleting the last file in the directory.

New in version 4.2.5: This can be controlled, either on system level or on storage level. If the storage metadata `keepEmptyDirectories` is set to true, empty directories are preserved in that storage. Likewise, if the configuration property `keepEmptyDirectories` is set to true, empty directories are preserved for all storages. Storage configuration overrules system configuration.

5.1.3 Files

When are files scanned?

In order to discover changes made to files, or if any files have been removed/added, Vidispine will scan the storages periodically. It is possible to disable the scanning by not having any methods with `browse=true` on the storage. The scan interval is also configurable on a per storage basis by setting the `scanInterval` storage metadata. The value should be in seconds. Setting this to a higher value will lower the I/O load of the device, but any file changes will take longer to be discovered. This also means that file notifications for file changes or file creation will be triggered later for changes occurring outside of Vidispine's control.

You can force a rescan of a storage by calling `POST /storage/(storage-id)/rescan`. This will trigger an immediate rescan of a storage *if* the supervisor is idle. If a supervisor is already busy processing the files then you may notice that the rescan happens some time later.

File States

Files can be in one of the following states:

NONE Just created, not used.

OPEN Discovered or created, not yet marked as finished.

CLOSED File does no longer grow.

UNKNOWN The current state is not known.

MISSING File is missing from the file system/storage.

LOST File has been missing for a longer period. Candidate for restoration from archive.

TO_APPEAR File will appear on file system/storage, transfer subsystem or transcoder will create it.

TO_BE_DELETED The file is no longer in use, and will be deleted at the next clean-up sweep.

BEING_READ File is in use by transfer subsystem or transcoder.

ARCHIVED File is archived.

AWAITING_SYNC File will be synchronized by multi-site agent.

Vidispine will mark a file as `MISSING` when it is first detected that the file no longer exists on the storage. No action is taken for files that are missing. If the file does not appear within the time specified by `lostLimit`, then the file will be marked as `LOST`. Lost files will be restored from other copies if such exist.

5.1.4 Items and storages

By default, when creating a new file, Vidispine will choose the LOCAL storage with the highest free capacity. This can be changed in a few different ways:

- Setting the `defaultIngestStorage` configuration property.
- Supplying the *storageId* parameter on the import request.
- Using *Storage rules*.

5.1.5 File hashing

Vidispine will calculate a hash for all files in a storage. This is done by a background process, running continuously. Files are hashed one by one for performance reasons, so if a large number of files are added to the system in a short time span it might take some time for all hashes to be calculated. The default hashing algorithm is SHA-1. This can be changed by setting the configuration property `fileHashAlgorithm`. See below for a list of supported values.

Additional algorithms

Vidispine can be configured to calculate hashes using additional algorithms by setting the `additionalHash` metadata field on the storage. It should contain a comma separated list (no spaces) of algorithms. The supported algorithms are:

- MD2

- MD5
- SHA-1
- SHA-256
- SHA-384
- SHA-512

5.1.6 Throttling storage I/O

Vidispine will retrieve information about files on a storage at the configured scan intervals. If you find that the I/O on your local disk drives is high, even when no transfers or transcodes are being performed, then you can try rate limiting the stat calls performed by Vidispine. Do this by setting `statsPerSecond` or the configuration property `statsPerSecond` to a suitable limit. During the file system scan, Vidispine will typically perform one stat per file.

An easy way to check if rate limiting the stat calls will have any effect is to disable the storage supervisors in Vidispine. This can be done using `PUT /vidispine-service/service/StorageSupervisorServlet/disable`. Remember to enable the service afterwards or you will find that Vidispine no longer detects new files on the storages, among other things.

It could also be that it's the file hashing service that is the cause of the I/O. You should be able to tell which service is behind it by monitoring your disk devices. If there's a high read activity/a large amount of data read from a device then it could be the file hashing that's the cause. If the number of read operations per seconds is high then it's more likely the storage supervisor.

Tip: Use tools such as `htop`, `iotop`, `dstat` and `iostat` to monitor your systems and devices.

5.1.7 Throttling transfer to and from a storage

New in version 4.0.

It is possible to specify a bandwidth on a storage or a specific storage method. This causes any file transfers involving the specified storage or storage method to be throttled. If multiple transfers take place concurrently, the total bandwidth will be allocated between the transfers. If a bandwidth is set on both the storage and its storage methods, the lowest applicable bandwidth will be used.

To set a bandwidth you can set the `bandwidth` element in the *StorageMethodDocument* when creating or updating a storage or storage method. The bandwidth is set in bytes per second.

Example

Updating a storage to set a bandwidth of 50,000,000 bytes per second.

```
PUT /storage/VX-2
Content-Type: application/xml

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>LOCAL</type>
  <capacity>1000000000</capacity>
  <bandwidth>50000000</bandwidth>
</StorageDocument>
```

Example

Updating a storage method to set a bandwidth of 20,000,000 bytes per second.

`PUT /storage/VX-2/method?uri=http://10.5.1.2/shared/&bandwidth=20000000`

5.1.8 Temporary storages for transcoder output

New in version 4.2.3.

The Vidispine transcoder requires that the destination (output) file can be partially updated. This is in order to be able to write header files after the essence has been written.

In previous versions, this is solved by the application server storing the intermediate result as a temporary file on the local file system (`/tmp`). This requires a lot of space on the application server.

With version 4.2.3, another strategy is available. Instead of storing the result as one file on the application server, several small files are stored directly on the destination file system as "segments". After the transcode has finished, the segments are merged. On S3 storage, this merging can be done with S3 object(s)-to-object copy.

Control of the segment file strategy is via the `useSegmentFiles` configuration property.

5.1.9 Storage method URIs

The following URI schemes are defined.

file

Syntax `file:///{path}`

Example `file:///mnt/storage/`, `file:///C:/mystorage/`

Note The URI `file://mnt/storage/` is not valid! (But `file:/mnt/storage/` is.)

ftp

Syntax `ftp://{user}:{password}@{host}/{path}`

Example `ftp://johndoe:secr3t@example.com/mystorage/`

New in version 4.1.2: Add query parameter `passive=false` to force active mode. To set the client side ports used in active mode, set the configuration property `ftpActiveModePortRange`, the value should be a range, e.g. `42100-42200`.

To set the client IP used in active mode, set the configuration property `ftpActiveModeIp`.

sftp

Syntax `sftp://{user}:{password}@{host}/{path}`

Example `sftp://johndoe:secr3t@example.com/mystorage/`

http

Syntax `http://{user}:{password}@{host}/{path}`

Example `http://johndoe:secr3t@example.com/mystorage/`

Note Requires WebDAV support in host.

https

Syntax `https://{user}:{password}@{host}/{path}`

Example `https://johndoe:secr3t@example.com/mystorage/`

Note Requires WebDAV support in host.

omms

Syntax `omms://{userId}:{userKey}@{hostList}/{clusterId}/{vaultId}/`

Example `omms://c2f6a2f4-6927-11e1-cc94-ab94bd11183f:some%20secret@10.0.0.3,10.0.0.4/425`

Note Object Matrix Matrix Store.

s3

Syntax `s3://{accessKey}:{secretKey}@{bucket}/{path}`

Example `s3://KDASODSALSDI8U:RxZYlu23NDSIN293002WdlNyq@mystore/storage1/`

Storage method metadata keys can be used control the interaction with the storage.

storageClass The default Amazon S3 storage class that will be used for new files created on an Amazon S3 storage. Can be either `standard` or `reduced`

Default `standard`

New in version 4.0.3.

azure

Syntax `azure://:{accessKey}@{accountName}/{containerName}`

Example `azure://:KLKau23dEE02WdlLiO@companyname/container1/`

New in version 4.0.1.

See also:

See `here` for some notes on how to write URIs.

5.2 Automatic import

A storage can be configured to automatically import new files/image sequences that are detected. Auto-import rules define what transcodes that should be performed as well as what metadata to be used if none can be found. Metadata can automatically be found if it shares the same filename and has the extension `.xml`, for example `video.avi` and `video.xml`.

Auto-import rules can also use *Import settings* to set up access control lists by setting the optional `settingsId` element.

5.2.1 Importing with a metadata file of an external format

Vidispine also supports auto imports with a metadata XML file that is of a different format than the native Vidispine *MetadataDocument*. This is achieved by associating a *Metadata projections* (XSLT transformation) with the auto import rule. First, create the projection, then set the auto import rule:

```
PUT /storage/VX-2/auto-import
Content-Type: application/xml

<AutoImportRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <tag>myflvtag</tag>
  <projection>myProjection</projection>
</AutoImportRuleDocument>
```

Where the `projection` element contains a *Projection id*.

Any auto imports from this storage will then first transform the supplied XML file using the specified projection.

5.2.2 Title as metadata

The *AutoImportRuleDocument* contains a field `fileNameAsTitle`. Setting this property to `true` means that the "title" fields of all single files imported form this storage will be set to their file names.

5.2.3 Applying file name filters to auto import rules

There are two kinds of filename filters that can be applied to auto import rules:

Exclusion filters Used to exclude files from being auto imported. This can be useful when the OS creates files automatically, e.g. `Thumbs.db` on Windows or `.DS_Store` files on Mac OS. Note that the expression must match the entire path, not only a part of the path.

Shape tag filters These can be used to transcode the imported file using a specific shape tag when a file name follows a certain pattern. You might want files ending in `.tiff` to be transcoded using the tag `lowimage` for example.

The filters are specified in the XML document you use to create/update the auto import rule.

Example

```
<AutoImportRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <metadata>
    <timespan start="-INF" end="+INF">
      <field>
        <name>title</name>
        <value>This is an auto-imported item.</value>
      </field>
    </timespan>
  </metadata>
  <tag>generictag</tag>
  <excludeFilter>
    <pattern>.*\.DS_Store</pattern>
  <excludeFilter>
  <shapeTagFilter>
```

```
    <pattern>.*\.tiff</pattern>
    <tag>lowimage</tag>
  </shapeTagFilter>
  <shapeTagFilter>
    <pattern>.*\.mxf</pattern>
    <tag>lowvideo</tag>
  </shapeTagFilter>
</AutoImportRuleDocument>
```

This rule will exclude any file ending with `.DS_Store`. Any files ending with `.tiff` will be imported with the shape tag `lowimage`, and any files ending in `.mxf` will be imported with the shape tag `lowvideo`. All files will be imported with the shape tag `generictag`.

5.2.4 Auto import of image sequences

Image sequences can be auto detected and imported if their file names match the predefined regex in *AutoImportRuleDocument*. The elements in the document are:

`fileSequence` Defines the file name pattern, and it is **mandatory**.

`sequenceMetadata` Defines the metadata file name pattern.

`idGroup` The matching group in the regex should be used as the id of the file sequence.

`numGroup` The matching group in the regex that should represent the position of a file in a sequence.

`timeout` A sequence is considered as completed after a certain timeout (in seconds). The default timeout is 60 seconds.

Example:

```
<AutoImportRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
        <tag>mp4</tag>
        <metadata>
                <timespan end="+INF" start="-INF">
                        <field>
                                <name>title</name>
                                <value>auto-imported item.</value>
                        </field>
                </timespan>
        </metadata>
        <sequenceDefinition>
                <sequenceMetadata>
                        <regex>(.*)-metadata.xml</regex>
                        <idGroup>1</idGroup>
                </sequenceMetadata>

                <fileSequence>
                        <regex>(.*)-([0-9]+).(dpx|tga|png|jpg)</regex>
                        <idGroup>1</idGroup>
                        <numGroup>2</numGroup>
                        <timeout>10</timeout>
                        <!-- seconds-->
                </fileSequence>
        </sequenceDefinition>
</AutoImportRuleDocument>
```

Given a storage with the above import rule, with the files:

```
foo-metadata.xml
foo-001.dpx
foo-002.dpx
foo-002.dpx
```

Then these would be recognized as a sequence `foo` with `foo-metadata.xml` as the metadata.

5.3 Storage rules

Storage rules are a way of controlling the availability of files. The rules describe where files of different types are stored. Settings include a minimum number of storages, specific storages and priorities for how suited a storage is for a particular type. A rule can be applied on a specific item, collection, library or shape tag. To further filter which shapes that the rules applies to, a shape tag can be set. Files can be named using *storage name rules*.

New in version 4.1.1: A storage rule can also describe where files should **not** be stored, in which case files will be eagerly removed. The default is otherwise to start removing files once the high watermark on a storage has been reached. A rule can specify specific storages or storage groups, or that all other storages should be excluded by using the "all" qualifier.

New in version 4.2.2: Storage rules on collections can now be inherited to items in sub-collections. See *Inherited rule example*.

5.3.1 Resolving storage rules

If a minimum number of storages has been set and an insufficient amount of specific storages are given, priorities are used to pick a suitable storage. The different priority criteria can be seen in the table below. The criteria type is given together with an integer describing its priority, where a lower number means that it is more important than an entry with a higher number.

Type	Description
bandwidth	Prioritizes bandwidth.
capacity	Prioritizes free available space.

Which rules apply?

Certain rules takes precedence over other rules. There are three things that factors into this decision process (ordered according to their importance):

1. The precedence given to the rule.
2. The type of the entity the rule is applied to.
3. Whether the rule is set to a certain shape tag or not.

Below a table of available precedence values can be seen, ordered from most important to least important.

Name
HIGHEST
HIGH
MEDIUM (default value)
LOW
LOWEST

Below a table of the difference entity types can be seen, ordered from most important to least important.

Name
ITEM
COLLECTION
LIBRARY
GENERIC (the type used if set directly on a shape tag)

So for example a rule with the precedence value HIGHEST, that is applied to a certain shape tag on an item will always take precedence over any other rule.

How are storage rules applied?

Since a shape can have 0 or more shape tags, there can be some ambiguity between the rules. Below a basic algorithm, that describes how the rules are applied, can be seen.

1. Start out with an empty set of storages, *S*.
2. Add all storages, given in the specific rules, to *S*.
3. If *S* is empty, add in storages specified in the generic rule.
4. Set the minimum required storages, *n*, to equal the highest number specified in the specific rules and the generic rule.
5. If the size of *S* is less than *n*:
   (a) Retrieve the priorities from one of the specific rules.
   (b) If no specific rule specified any priorities, use the generic rule.
   (c) If the generic rule did not specify any priorities, use some system default priorities.
   (d) Attempt to fill *S* using the priorities.

5.3.2 Examples

Simple rule example

Setting a simple rule on a item, dictating that the item's original shape should exist on at least two storages, and one of them must be storage VX-3

```
PUT /item/VX-28/storage-rule/original
Content-type: application/xml

<StorageRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storageCount>2</storageCount>
  <storage>VX-3</storage>
</StorageRuleDocument>
```

Negative rule example

Setting a simple rule on a item, dictating that the item's original shape should exist on at least two storages, and one of them must be storage VX-3, and it must not exist on storage VX-2.

```
PUT /item/VX-28/storage-rule/original
Content-type: application/xml
```

```
<StorageRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storageCount>2</storageCount>
  <storage>VX-3</storage>
  <not>
    <storage>VX-2</storage>
  </not>
</StorageRuleDocument>
```

Inherited rule example

New in version 4.2.2.

Storage rules on collections by default only applies to the items in the collection and does *not* apply for items that exist in any sub-collections.

To change so that a collection storage rule applies to all items in it and all items in any sub-collections, recursively, use:

```
<StorageRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storageCount>1</storageCount>
  <inherited>true</inherited>
  <storage>VX-1</storage>
</StorageRuleDocument>
```

5.4 Filenames

By default, Vidispine names new files according to **site-id**–**number extension**, all in one folder. This pattern can be overridden. This section describes three very different ways.

5.4.1 Using a tree structure for files

Putting all files in the same directory of a storage can cause degraded performance on some file systems. By setting the configuration property `fileHierarchy`, the naming convention is changed to **site-id** – **number1** / **number2** **.** **extension**. The number set in `fileHierarchy` controls the size of **number2**. Example:

`fileHierarchy` not set, or 0	`fileHierarchy` =100	`fileHierarchy` =1000
`VX-7.mp4`	`VX-0/07.mp4`	`VX-0/007.mp4`
`VX-47232.mp4`	`VX-472/32.mp4`	`VX-47/232.mp4`

Note that the splitting into subdirectories is currently only done in one level, so no `VX-4/72/32.mp4`.

The configuration property may be changed at any time, but old files will not be renamed.

5.4.2 Storage name rules

A storage name rule dictates the filename that the file of a particular shape should have on a certain storage. Note that these rules doesn't make sure a file is actually located on a storage, it just says what filename a file should have **if** it is located on that storage. Storage name rules are often used together with *storage rules*

5.4.3 Naming files on storage

The default naming convention of can be overridden on a per-storage basis by associating a JavaScript script to the storage.

The script will be invoked whenever a file needs to be created on the storage.

Setting the script

The JavaScript is stored as metadata `filenameScript` to the storage. That is, the code is set using `PUT /storage/(storage-id)/metadata/filenameScript`.

If using curl, use `--data-binary` instead of `-d` to make sure all new-line characters are kept.

Input

In the execution context of the script, there is a variable named `context`, which has the following functions:

`context.`**`getShape`**`()`
: Returns a ShapeType (see Vidispine XSDs) object.

  For example, to get the essence version, use `context.getShape().getEssenceVersion()`. Can return `null`.

`context.`**`getJobMetadata`**`()`
: Returns a `java.util.Map<String,String>`. Can be `null`.

`context.`**`getItem`**`()`
: Returns an ItemType, which is the same output as `GET /item/(item-id)?content=metadata,shape,access,exte`
  Can return `null`.

`context.`**`getStorage`**`()`
: Returns a StorageType.

`context.`**`getComponent`**`()`
: Returns a ComponentType. Can return `null`.

`context.`**`getExtension`**`()`
: Returns the suggested extension for the file. Can return `null`.

`context.`**`getFileId`**`()`
: Returns the file id of the file to be created.

`context.`**`getTags`**`()`
: Returns a `java.util.Collection<String>` of the shape tags of the shape the file belongs to.

`context.`**`getOriginalFilename`**`()`
: Returns the original filename that was used when item was imported.

`context.`**`getChannel`**`()`
: Most of the time this will return null, except when you want to *split audio channels to separate files*.

  New in version 4.1.

Output

The script should return (last value) the file name of the file.

Existing file names

If the suggested file name is already in use on the Storage, the script will be called again, up to 10 times. The new invocations will run in the same context as the previous, so it is possible to store information, e.g. sequence numbers, to not repeat the same file name.

Example

```
var l = "foobar-"+context.getStorage().getId()+"/"+context.getFileId();
if (context.getExtension() != null)
    l += "."+context.getExtension();
```

5.5 URI's, URL's, and Special Characters

5.5.1 File paths

There are a number of characters that have special uses in various file systems.

Characters not allowed in path segments (directory names, file names)

- U+0000 - U+001F (including TAB, CR, NL)
- U+002F (`/`)
- U+005C (`\`)

While technically possible to use in path segments on various file systems, it is not possible to use these characters in Vidispine path names.

Characters not supported on certain platforms

- U+007F (DEL)
- U+003F (`?`)
- U+002A (`*`)
- U+0024 (`$`)
- U+003A (`:`)
- Paths that are MS-DOS device names (`LPT1`, etc)
- U+D800 - U+10FFFF

These characters may or may not work, depending on operating system and Java version. It is strongly suggested that they are not used.

5.5.2 API calls

In calls to the Vidispine API, the following rules apply:

- Path segments are encoded using RFC3986 (http://www.ietf.org/rfc/rfc3986.txt).

  - Non-ASCII characters are encoded in UTF-8, and do not have to be percent encoded.
  - Percent encoding. Particularly space is encoded as %20 (not +, so Java's URLEncoder is not the right tool!)
- Non-ASCII characters are encoded in UTF-8, and do not have to be percent encoded
- Percent encoding. Particularly space is encoded as %20 (not +, so Java's URLEncoder is not the right tool!)
- Query parameter values are encoded using RFC2396 (http://www.ietf.org/rfc/rfc2396.txt)
  - Non-ASCII characters need to be percent encoded.
  - Space can be encoded as + (or %20).
- Non-ASCII characters need to be percent encoded
- Space can be encoded as + (or %20)
- URIs in XML documents need to be quoted according to XML, e.g. & for &.

Note: As a consequence, path that are used as query parameters (e.g. the URL parameter in imports), need first to be encoded as a URI, then encoded as a URL query parameter.

Example 1

Path: `/tmp/my movie.dv`

As a URI: `file:/tmp/my%20movie.dv`

As a URL parameter for import: `http://localhost:8080/API/import?URL=file%3A%2Ftmp%2Fmy%2520movie.dv` (see below)

Note that the space has to be quoted twice. First to %20 in the URI, than the percent sign in %20 have to be quoted to %2520.

Example 2

Path: `/tmp/tête-à-tête.dv`

As a URI: `file:/t%C3%AAte-%C3%A0-t%C3%AAte.dv` (UTF-8 is used for the special characters, then percent encoded) (Optionally: `file:/tête-à-tête.dv`)

As a URL parameter for import: `http://localhost:8080/API/import?URL=t%25C3%25AAte-%25C3%25A0-t%25C3%`

Code example

The following Java code, using Jersey's UriBuilder, shows how to generate valid API calls:

```
String path = "/tmp/tête-à-tête.dv";
URI uri = new File(path).toURI();
URI callUri = UriBuilder.fromUri("http://localhost:8080/API/import").queryParam("uri", "{uri}").build
```

Warning: In previous versions of Vidispine, the following call was accepted: `http://localhost:8080/API/import?URL=file:/tmp/my+movie.dv`. However, this is not valid, as the actual value of the parameter is then `file:/tmp/my movie.dv` , which is not a valid URI. (However, `http://localhost:8080/API/import?URL=file:/tmp/my%2520movie.dv` is valid.)

See also:

- How to write VS URI's
- The URLEncode and URLDecode Page (http://www.albionresearch.com/misc/urlencode.php)

CHAPTER

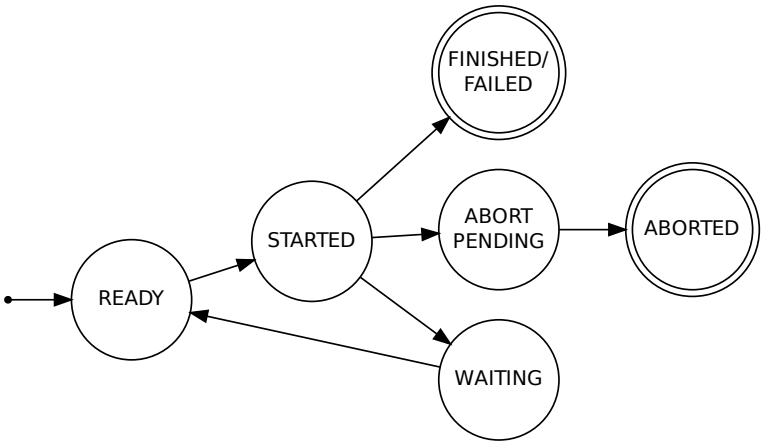
SIX

JOBS AND TASK DEFINITIONS

6.1 Jobs

Jobs make up the long running tasks in Vidispine. They are created in response to requests that would otherwise not be able to respond in time, such as import, export and transcode requests.

The actions performed by a job is determined by its type. Bound to the type are a number of steps, or tasks, defined by the *task definitions*. The tasks form a graph, and typically execute in sequence, but it is also possible for tasks to start in parallel. This happens for example when importing and transcoding a growing file. The transfer step will initiate the transfer and then trigger the transcode step to start once enough data (the header) from the file has been transferred.



The states of a job are illustrated above. See below for a full description of the *states* and of the *job step states*.

6.1.1 Creating jobs

Create jobs by making requests to other RESTful resources:

Job type	Relevant documentation
Import jobs	*Imports* (Also *Importing a file from a storage*)
Export jobs	*Exports*
Thumbnail jobs	*Thumbnail settings*
Shape update/Essence version jobs	*Shapes*
File actions	*Files*
Sequence rendering	*Item sequences*
Item list job	*Listing items in batch*
Shape analyze	*Shape analysis*

6.1.2 Concurrency

The number of jobs that execute in parallel is determined by the `concurrentJobs` configuration property.

Job pools

New in version 4.2.2.

Using job pools it is possible to limit the number of concurrent low priority jobs, to make sure that higher priority jobs are able to start even if there are a large number of low priority jobs running. Job pools are configured using the *job pool configuration resource*.

```
PUT /configuration/job-pool
Content-Type: application/xml

<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool>
    <priorityThreshold>HIGH</priorityThreshold>
    <size>2</size>
  </pool>
  <pool>
    <priorityThreshold>LOWEST</priorityThreshold>
    <size>3</size>
  </pool>
</JobPoolListDocument>
```

This configuration will allow at most 3 jobs with a priority of LOWEST to MEDIUM to execute at the same time. It will also allow up to 5 concurrent HIGH/HIGHEST priority jobs, as the second pool will contain jobs with a priority of LOWEST *or higher* (the priority threshold is the lower bound and pools have no upper priority bound.)

If there is no job pool with a priority threshold that matches low priority jobs then such jobs will *not* be started. For example, to only let jobs with a priority of MEDIUM or higher to execute:

```
<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool>
    <priorityThreshold>MEDIUM</priorityThreshold>
    <size>3</size>
  </pool>
</JobPoolListDocument>
```

Note that the max concurrent job setting will only have an effect if it is lower then the size of all pools combined.

If no pools have been defined then `<concurrentJobs>` controls the number of concurrent jobs. This is the same setting as the `concurrentJobs` configuration property. So by default the job pool configuration will look like:

```
<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <concurrentJobs>3</concurrentJobs>
</JobPoolListDocument>
```

6.1.3 Job problems

Jobs will enter the state WAITING if a recoverable problem has occurred. Depending on the problem the system might resolve itself or require manual assistance, for example if the system is out of storage space.

A system with no job problems will report:

```
GET /job/problem HTTP/1.1
Content-Type: application/xml

<JobProblemListDocument xmlns="http://xml.vidispine.com/schema/vidispine"/>
```

A system where the transcoder is unreachable for some reason may report:

```
GET /job/problem HTTP/1.1
Content-Type: application/xml

<JobProblemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <problem>
    <id>31532534</id>
    <type>TranscoderOffline</type>
    <job>VX-172716</job>
  </problem>
</JobProblemListDocument>
```

There can be multiple jobs waiting for a problem to be resolved, for example, in case of transcoder or storage problems. For JavaScript problems there will however be one problem per job, as the problem condition is defined by a step specific for each job.

6.1.4 Job tasks

The action performed by a task can be implemented either as a method in an EJB or as a JavaScript. Using JavaScript is recommended for all new applications.

```
POST /task-definition/ HTTP/1.1
Content-Type: application/xml

<TaskDefinitionListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <task>
    <description>A custom JavaScript step</description>
    <script><![CDATA[
// This script does nothing but fail the job
job.fatalFail("Testing job failing");
]]></script>
    <step>10000</step>
    <dependency>
      <previous>false</previous>
      <allPrevious>true</allPrevious>
    </dependency>
    <jobType>PLACEHOLDER_IMPORT</jobType>
    <critical>false</critical>
```

```
  </task>
</TaskDefinitionListDocument>
```

Defining new tasks

See *JavaScript tasks* on how to create JavaScript tasks.

Task dependencies

The execution order is defined by the step numbers and dependencies of the steps. The `dependency` element defines which steps a specific step depend on. There is also the `parallelDependency` element that defines the dependencies that apply if the step is executing as a parallel step.

`allPrevious` = true	The step requires all previous step to finish, before it can start.
`previous` = true	The step requires the previous step to finish, before it can start
`step` = N	The step requires step number N to finish, before it can start

Visualizing tasks

In order to easily see the dependencies between steps for a particular job type, there is functionality to render the job definition as a graph. In order to render the graph, the Graphviz (http://www.graphviz.org/) package is required.

6.2 JavaScript tasks

A JavaScript task is created by including the JavaScript in the task definition document. To evaluate the script Vidispine uses Rhino (https://developer.mozilla.org/en-US/docs/Rhino). A number of global variables are defined for the script to use, see *Common JavaScript functions*.

In addition for task definitions, there is *the job object*.

6.2.1 The job object

The `job` object contains methods for reading and writing metadata for the job that is executing, and also for some job control.

`job.`**`getId`**`()`
: Gets the id of the job that is executing.

  New in version 4.2.2.

`job.`**`log`**`(`*description*`)`
: Logs a message related to the current job step.

  New in version 4.2.2.

`job.`**`getData`**`(`*key*`)`
: Gets the data for the given key.

`job.`**`setData`**`(`*key*, *value*`)`
: Sets the data for the given key.

`job.`**`fail`**`(`*errorMessage*`)`
: Fails the current step, but the step will be retried (up to five times).

`job.`**`fatalFail`**(*errorMessage*)
Fails the current step and job.

6.2.2 Pausing job execution

New in version 4.0.

A JavaScript job step can pause the execution of the job by calling `job.wait()`. This will set the job in the WAITING *job state*. To determine if the job execution can be resumed, the script is run again every minute with the variable `checkProblem` set to true. If the job should keep waiting, then `job.wait()` should be called again.

`job.`**`wait`**(*reason*)
Sets the job in WAITING state.

Arguments

- **reason** (*string*) – An explanation of what the job is waiting for.

Example

```
if (checkProblem) {
  if (/* condition is fulfilled */ ...) {
    return;
  }
  // Call job.wait() to indicate that the job should wait more
  // See note above
  job.wait("condition still not fulfilled");

} else {
  // run step as normal
  ....

  if (/* condition is not fulfilled */ ...) {
    job.wait("waiting for condition");
    return;
  }

  // continue job execution
  ....
}
```

6.2.3 Example: Update item metadata on import

Start by adding a new task to the import job with the script to execute.

Note: If using curl, use `--data-binary` instead of `-d` to make sure all new-line characters are kept in the script.

```
POST /task-definition/
Content-Type: application/xml

<TaskDefinitionListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <task>
    <description>Updating item metadata using a JavaScript task</description>
    <script><![CDATA[
...
```

```
]]></script>
    <step>10000</step>
    <dependency>
      <previous>false</previous>
      <allPrevious>true</allPrevious>
    </dependency>
    <jobType>PLACEHOLDER_IMPORT</jobType>
    <critical>false</critical>
  </task>
</TaskDefinitionListDocument>

// Retrieve the id of the item that is being imported
var itemId = job.getData("itemId");
var shapeId = job.getData("originalShapeId");

// Retrieve the shape information
var shape = api.path("item/"+itemId+"/shape/"+shapeId).get();
var video = shape.videoComponent.length;
var audio = shape.audioComponent.length;

// Build a document with the metadata to set
var metadata = {
  "timespan": [
    {
      "start": "-INF",
      "end": "+INF",
      "field": [
        {
          "name": "title",
          "value": [
            {
              "value": "Item with "+video+" video and "+audio+" audio tracks"
            }
          ]
        }
      ]
    }
  ]
};

// Update the item metadata
var result = api.path("item/"+itemId+"/metadata").input(metadata).put();
var metadata = result.item[0].metadata;
```

6.2.4 Example: Update item metadata on import using XML

Scripts can also use ECMAScript for XML (E4X) to easily create and parse XML documents. Using E4X the above script could be written as below. Note that the XML responses from Vidispine will automatically be parsed into E4X XML objects instead of being returned as strings.

```
// Set the default XML namespace so that the Vidispine namespace does not have
// to be specified when retrieving properties or when building the metadata document
default xml namespace = "http://xml.vidispine.com/schema/vidispine";

// Retrieve the id of the item that is being imported
var itemId = job.getData("itemId");
var shapeId = job.getData("originalShapeId");
```

```
// Retrieve the shape information
var shape = api.path("item/"+itemId+"/shape/"+shapeId).dataType("xml").get();
var video = shape.videoComponent.length();
var audio = shape.audioComponent.length();

// Build a document with the metadata to set
var metadata = <MetadataDocument>
  <timespan start="-INF" end="+INF">
    <field>
      <name>title</name>
      <value>Item with {video} video and {audio} audio tracks</value>
    </field>
  </timespan>
</MetadataDocument>

// Update the item metadata
var result = api.path("item/"+itemId+"/metadata").input(metadata).put();
var metadata = result.item[0].metadata;
```

CHAPTER

SEVEN

NOTIFICATIONS

Notifications are sent from the system when predefined events occur. An example of such an event could be a job that finishes. Examples of when this could be useful are:

- Getting a notification when a job finishes.
- Making sure the metadata input for a certain field is correct.

Notifications involve a quadruple:

1. The resource or entity to be notified about.
2. The event that should trigger the notification.
3. The action that should be taken when the notification is triggered.
4. Filters that further specifies the behavior of the trigger.

7.1 Resources

A number of different entity types support notifications. Below is a short description of the different entity types and what events can trigger a notification:

- **Items** – notifications can trigger on item delete/create, metadata changes, shape changes and access control changes.
- **Collections** – can trigger on creation/deletion, metadata changes and content changes.
- **Jobs** – can trigger on job create, update, finish, fail and stop.
- **Groups** – group notifications can trigger on group create, delete and modify.
- **Storages** – can trigger on storage create/delete, and on new files.
- **Files** – can trigger on group create, delete and modify.
- **Quota** – quota notifications can trigger on quota create, delete, and quota exceeded warnings.

7.2 Actions

An action is what will be done when a notification is triggered. The action can either be to:

- Perform a HTTP request.
- Invoke an EJB method.
- Send a JMS message.

- Execute a JavaScript.

The data included in the request or message will be multivalued key-value data identifying the event that has occurred.

An action can be sent either synchronous or asynchronous. In the case of a synchronous action the message will be sent in the same thread as where the notification is triggered. And execution will only continue if the recipient acknowledges and approves the message. In the asynchronous case the message will be sent in another thread and execution will continue immediately.

For a full description of actions, refer to the API reference on *Actions*.

7.3 Triggers

A trigger is the event that will cause the notification to perform its action. Different triggers exist for different resources. The trigger used determines what output that can be expected. Below an overview of available triggers can be seen:

- Item triggers.
  - Shapes
  - Metadata
  - ACLs
- Collection triggers
- Group triggers
- Job triggers
- Storage triggers
- File triggers
- Quota triggers

For a full description of triggers, refer to the API reference on *Triggers*.

7.4 Job filtering

7.4.1 Job types

Filter criteria can be added to job notifications in order to filter which type of jobs they trigger on.

7.4.2 Job metadata

Either by string comparison or regular expressions.

7.5 Filters

Filters can be used to specify the trigger further. For example in the case of metadata, the notification can be filtered to only trigger for certain values.

CHAPTER

EIGHT

RESOURCES

Resources in Vidispine are components used for auxiliary storage or transformation. The two most commonly used resource type are the `thumbnail`, which is used to store thumbnails, and `transcoder`, which points to instances of the Vidispine transcoder.

8.1 Transcoders

When you import items the Vidispine transcoder will be used to detect the type of media that is being imported and, of course, to transcode the media to any formats that you have requested.

The common operations performed by the transcoder are:

- Media shape deduction
- Transcoding
- Sequence rendering
- Partial file extraction
- XMP extraction and rewrite

The Vidispine transcoder has a REST API that Vidispine uses to perform the above operations. This API is not described in this document, as it typically should not be accessed directly.

8.1.1 Adding a transcoder

Add a transcoder by creating a new `transcoder` resource. The resource document should contain information on how to reach the transcoder and what storages the transcoder has direct access to.

```
POST /resource/
Content-Type: application/xml

<?xml version="1.0"?>
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <transcoder>
    <url>http://transcoder.example.com:8888/</url>
    <directAccess>
      <filter>file:/srv/media/.*</filter>
    </directAccess>
  </transcoder>
</ResourceDocument>
```

Vidispine checks the status of transcoders continuously in the background. As such, if the configuration is correct you will see that the transcoder shows up as online in a few seconds.

```
GET /resource/VX-7
```

```
<?xml version="1.0"?>
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-7</id>
  <transcoder>
    <url>http://transcoder.example.com:8888/</url>
    <directAccess>
      <filter>file:/srv/media/.*</filter>
    </directAccess>
    <state>ONLINE</state>
  </transcoder>
</ResourceDocument>
```

The Vidispine installer will by default install and configure a transcoder in Vidispine for you, so this step is typically not needed.

8.1.2 Using multiple transcoders

Depending on your license, you may be allowed to use more than one transcoder. To do so, simply add additional transcoders as explained above. Vidispine will submit transcode jobs to the transcoder based on the current number of jobs being processed by the transcoder.

Vidispine will use the transcoder with the least amount of work. If a transcoder goes offline then any transcode job steps using that transcoder will fail and be retried using one of the online transcoders. If all transcoders are offline then jobs will *wait* for one to become available.

> **Warning:** Do not connect multiple Vidispine installations to the same set of transcoders unless each installation has a distinct site name. If installations have the same site name then jobs from one installation may conflict with jobs from another.

8.1.3 How transcoders perform jobs

A transcoder will perform a job as soon as it is received, and will not schedule jobs for later execution. Vidispine, that is, the user of the transcoder is responsible for scheduling which jobs a transcoder should execute and when they should be executed.

8.1.4 The transcoder's configuration file

The transcoder configuration file `config.xml` contains default settings for the transcoder and need typically not be modified, as the settings can instead by configured in Vidispine.

Modify the transcoder file

On a Linux system, copy the file `/opt/vidispine/transcoder/config.xml` to `/etc/transcoder-config.xml`. Then edit `/etc/transcoder-config.xml`. The file in `/etc` takes precedence over the file in `/opt/vidispine`.

Modify the transcoder resource

New in version 4.2.3.

On all operating systems, the transcoder configuration can be changed by adding configuration to the resource definition of the transcoder (*Adding a transcoder*).

Note that port of the transcoder cannot be changed in this fashion.

Modifying the transcoder configuration is this fashion takes precedence over the local configuration file and the global transcoder configuration, see below.

Modify all transcoders

It is also possible to change the configuration of all transcoders, by setting the configuration property `transcoderDefaultConfiguration` to the XML representation of the transcoder configuration.

Thumbnail settings

Note: The preferred way of changing the thumbnail and poster settings is by changing the appropriate values in the *TranscodePresetDocument* in a *shape tag*. For example, by changing the `thumbnailResolution` and `thumbnailPeriod` elements. The setting in shape tag have priority over the transcoder setting.

The `thumbnailResolution` element contains the default resolution of the thumbnails produced by the transcoder.

```
<a:thumbnailResolution>
   <a:width>320</a:width>
   <a:height>240</a:height>
</a:thumbnailResolution>
```

You can also change the thumbnailing frequency by changing `thumbnailPeriod`. For example, to thumbnail every 3 seconds:

```
<a:thumbnailPeriod>
   <a:samples>3</a:samples>
   <a:timeBase>
      <a:numerator>1</a:numerator>
      <a:denominator>1</a:denominator>
   </a:timeBase>
</a:thumbnailPeriod>
```

If the transcoder does not use `SceneChangeDetectionPlugin`, the frequency defaults to once every 10 seconds.

StatsD settings

New in version 4.2.3.

To have the transcoder send metrics to a StatsD server you can either:

- Enable StatsD using the API, see *StatsD*
- Update the transcoder configuration with the address and port of the StatsD server:

```
<a:statsd>
  <a:destination>
    <a:address>127.0.0.1</a:address>
    <a:port>8125</a:port>
```

```
  </a:destination>
  <a:prefix>t1</a:prefix>
</a:statsd>
```

The `prefix` element configures the prefix to use for each metric. By default this is the `transcoder`.

Transcoder resources settings

Path to temporary storage

Since 4.2.5

Controls where temporary files are stored. Defaults to `/tmp` on UNIX-like systems, or `%TEMP%` on Windows.

```
<a:tempPath>/mnt/largetemparea<a:tempPath>
```

Number of decoding threads

Controls the number of decoding threads. Defaults to 4 for I-frame-only formats. The actual number of threads used depends on codec. (New in 4.2.3.) Since version 4.2.3, this setting is used with more formats then before.

```
<a:decoderOfferThreads>8<a:decoderOfferThreads>
```

Number of encoding threads

Controls the number of encoding threads. Defaults to automatic setting. The actual number of threads used depends on codec.

```
<a:encoderThreads>8<a:encoderThreads>
```

Image processing

To control the memory and disk usage used by the transcoder for image processing, use the `<imagemagick>` element in the transcoder configuration. The most important settings are listed below, for a complete list, see http://www.imagemagick.org/script/resources.php (under environment variables, used without the `MAGICK_` prefix in the transcoder configuration).

Maximum heap usage

```
<a:imagemagick>
  <a:key>MEMORY_LIMIT</a:key>
  <a:value>1GB</a:value>
</a:imagemagick>
```

Temporary work area

```
<a:imagemagick>
  <a:key>TEMPORARY_PATH</a:key>
  <a:value>/var/tmp</a:value>
</a:imagemagick>
```

(New in 4.2.5.) The default value is the value set by the general transcoder temporary path, see above. It is recommended that the `tempPath` setting is used, rather than the `imagemagick` one.

8.1.5 Operations overview

Zeroconf transcoders

The following is done to remove the need to configure the transcoders directly:

- Vidispine pushes its own license to the transcoder, so that each transcoder does not need a license file of their own.
- The transcoder returns the IP address from where the license was pushed, that is, the IP address of the application server, removing the need for explicitly configuring the reverse address, that is, where the transcoder can reach Vidispine, in most cases.
- In addition, Vidispine generates temporary pre-authorized URIs that are used by the transcoder. This removes the need for entering any application server information in the transcoder configuration file.

Reverse address and NAT

The reverse address does not work if there is NAT or other port forwarding mechanisms between the application server and the transcoder. If so, the address to VS-EA can be overridden in the definition for the transcoder by setting the `<reverseAddress>` element.

```
<?xml version="1.0"?>
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <transcoder>
    <url>http://transcoder.example.com:8888/</url>
    <reverseAddress>vs.example.com</reverseAddress>
  </transcoder>
</ResourceDocument>
```

For GlassFish, a new HTTP listener (`noauth-listener`, default port is the standard API port + 9) is installed on GlassFish for communication from the transcoder to GlassFish. The rules for how the address to GlassFish is determined are as follows:

1. If the configuration property `apiNoauthUri` is set, it is used for all transcoders.
2. If the configuration property `apiNoauthPort` is set, it is used for together with the detected or manually set reverse address.
3. If the port for `noauth-listener` can be determined (GlassFish only), it is used with the reverse address.
4. If the port for `http-listener-1` can be determined (GlassFish only), it is used with the reverse address.

For JBoss, it is currently required that at least `apiNoauthPort` is set.

Transcoder's access to media

By default, the transcoder accesses non-file-schema media through the application server. This has several advantages:

- The same user is used for all file access.
- Possibility for support for extended file attributes and permissions.
- Support for other file systems (URI schemes).

Streaming the media puts some extra load on the application server. Some tuning might be necessary.

The transcoder resource in Vidispine can be set up to access files directly. By adding a `directAccess` element to the transcoder resource, Vidispine will let the transcoder access the media directly. If no `directAccess` elements are present, an implicit

```
<directAccess>
   <filter>file:.*</filter>
</directAccess>
```

is added. In order to tell Vidispine that all files should go via the application server, add an

```
<directAccess>
   <filter>NO_MATCH</filter> <!-- dummy regular expression that does not match anything -->
</directAccess>
```

Growing files

For all file systems that supports read-while-write, and for container formats that are built for streaming (e.g. MXF), growing file is supported when streamed through the application server. If growing files is required to local files with the `file` scheme, a `directAccess`/`NO_MATCH` element as per above must be added to the resource configuration.

8.2 External transcoders

Using the external transcoder support in Vidispine it is possible to use transcoders from other companies, or to perform transcodes in other ways. This is done using watch folders.

- With transcoders that support watch folders directly, it's simply a matter of configuring both Vidispine and the external transcoder to use the same watch folder.
- Transcoders that do *not* support watch folders can still be integrated with by writing a service that monitors the watch folder and sends transcode request to the external transcoder accordingly.

Important:

- It is not possible to transcode using the Vidispine transcoder and an external transcoder at the same time.
- It is only possible to transcode using one external transcoder shape tag at the time.
- Only local file system (*file:///*) methods are supported at the time, which means that both the Vidispine storage and the external transcoder folders must be local.

8.2.1 How it works

When starting an import or transcode job, Vidispine will check if the given shape tag is defined to be handled by an external transcoder. If it is, then the source file (e.g. the original essence of the item) will be copied to the transcoder's watch folder (e.g. `<source>` the external-transcoder *ResourceDocument*); then the job waits for a file/files to appear in the destination folder (e.g. `<destination>` in *ResourceDocument*), and perform the rest steps. Note: only the transcode step is handled by the external transcoder.

Filename pattern

It is mandatory to define a filename pattern (a.k.a `<regex>`) in the external transcoder resource to control what files the job should look for. In order to support multiple transcodes at the same time, the regex will be prefixed using the file name of the essence automatically. That is:

If the original essence file name is `VX-100`, and the regex is `.*output.*`, then vidispine will look for files matching `\QVX-100\E.*output.*`.

Timeout

A timeout can also be specified. The default timeout is 30 seconds, which means that the output file must appear in the destination folder and stop growing within this timeout, or the transcode step will be marked as failed.

8.2.2 Adding an external transcoder

Add an external transcoder by creating an `externalTranscoder` resource using `POST /resource`.

```
POST /resource/externalTranscoder/
Content-Type: application/xml

<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <externalTranscoder>
        <source>file:///C:/externalTranscoder/source/</source>
        <destination>file:///C:/externalTranscoder/destination/</destination>
        <shapeTag>external-format</shapeTag>
        <timeout>60000</timeout>
        <regex>.*demo.*</regex>  <!-- Since Vidispine 4.0 -->
   </externalTranscoder>
</ResourceDocument>
```

8.2.3 Using an external transcoder

Before starting a transcode, make sure the shape tag in the example, has been defined in an external transcoder resource.

```
POST /shape-tag/external-format
Content-Type: application/xml

<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <format>mp4</format>
  <audio></audio>
  <video></video>
</TranscodePresetDocument>
```

The external transcoder is supported in `AUTO_IMPORT` and at the following requests

- `POST /import`
- `POST /import/raw`
- `POST /item/(item-id)/transcode`
- `POST /item/(item-id)/shape/(shape-id)/transcode`

8.3 Thumbnail resources

A thumbnail resource defines a directory on the file system where the thumbnail database files will be stored.

8.3.1 Adding a thumbnail resource

Add a thumbnail resource using `POST /resource`.

```
POST /resource
Content-Type: application/xml

<?xml version="1.0"?>
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <thumbnail>
    <path>file:///srv/thumbnails/</path>
  </thumbnail>
</ResourceDocument>
```

8.3.2 Reading thumbnails

The thumbnails in that directory will then be available from the API as described on *Thumbnail resource handling*. For example, all thumbnails can be listed using `GET /thumbnail/(resource-id)`.

```
GET /thumbnail/VX-2

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-1</uri>
  <uri>VX-3</uri>
  <uri>VX-4</uri>
  <uri>VX-7</uri>
</URIListDocument>
```

However, you would typically not access thumbnails from that resource directly. Instead, fetch thumbnails for an item using `GET /item/(item-id)/thumbnailresource` or using the `thumbnail` content parameter.

```
GET /item/VX-7/thumbnailresource

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>http://localhost:8080/API/thumbnail/VX-1/VX-7;version=0</uri>
</URIListDocument>

GET http://localhost:8080/API/thumbnail/VX-1/VX-7;version=0

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>0@PAL</uri>
</URIListDocument>
```

8.3.3 How thumbnails are saved on disk

The thumbnails can be stored either in a database form or as one file per thumbnails (New in 4.2.2.).

Thumbnails are stored in the resolution and format as requested when the thumbnails were created, and it's not possible to for example request a thumbnail as a PNG if it has previously been created as a JPEG.

Database

The thumbnail path as specified in the *ResourceDocument* should have the format

- path (e.g. `/srv/media/thumbnails/`), or
- file URI (e.g. `file:///src/media/thumbnails/`)

Thumbnails are stored in a separate directory and database - one for each item. Vidispine will automatically migrate the databases during runtime if necessary, so no special action is required when updating Vidispine to a newer version or when restoring an old thumbnail backup on a newer system.

One file per thumbnail

New in version 4.2.2.

The thumbnail path as specified in the *ResourceDocument* should have the format

- URI with the `direct+` prefix (e.g. `direct+file:///src/media/thumbnails/`

All URIs supported as *Storage method URIs* are supported.

Using a tree structure for thumbnails

Putting all files in the same directory of a storage can cause degraded performance on some file systems.

By setting the configuration property `thumbnailHierarchy`, the naming convention for the thumbnails' folders is changed to **site-id** – **number1** / **number2**. The number set in `thumbnailHierarchy` controls the size of **number2**.

The `thumbnailHierarchy` works in the same way as `fileHierarchy` does for files. See *Using a tree structure for files* for an example. The property works both for the database thumbnail storage and the direct thumbnail storage.

> **Warning:** Changing the `thumbnailHierarchy` property **will cause old thumbnails to be lost**. If you need to change the value on a system in production, please contact Vidispine.

CHAPTER

NINE

TIMELINES AND SEQUENCES

9.1 Projects and sequences

9.1.1 Item sequences

An item can hold a number of sequences, and is then called a sequence item. All sequences will be considered equivalent by Vidispine, that is, that they represent the same logical sequence.

Sequences can also be *imported and exported* to and from common NLE formats.

The non-timed metadata of a sequence item will contain the following fields:

Field Name	Value
`__sequence_size`	The number of sequences that exist for an item.
`__sequence`	The format of a sequence that exist for an item.

9.1.2 Projects and project versions

A project is a special type of *collection* that contains a number of project versions. A project version is a collection that contains the *items* and *sequences* that together represent a specific version. As both project and project versions are ordinary collections it means that all existing collection operations can be used, for example editing project *metadata*.

Projects can also be *imported and exported* to and from common NLE formats.

Note: Projects and project versions are read-only and cannot be altered by manually adding or removing child items or collections.

For a project version it is possible to store the original document representing the project, the Final Cut Pro XML for example, as well as any additional representations, here called Project Version Definitions. Each representation is stored as binary data, and is identified by a format identifier (e.g. `finalcut`.)

Any string can be used as the format identifier, except the following which are reserved by Vidispine, but may be used as long as the content matches.

Identifier	Content	Description
`finalcut`	`application/final-cut-pro`	Final Cut Pro 7 XML
`finalcut-x`	`application/final-cut-pro-x`	Final Cut Pro X XML
`aaf`	`application/aaf`	AAF
`fabric`	`application/fabric`	Fabric CEMS
`vidispine`	`application/x-vidispine`	*SequenceType*

Example

For a project named "Unnamed project":

```
<timespan start="-INF" end="+INF">
  <field>
    <name>__type</name>
    <value>project</value>
  </field>
  <field>
    <name>__project_name</name>
    <value>Unnamed Projekt</value>
  </field>
  ...
</timespan>
```

For a project version with a single Final Cut Pro representation:

```
<timespan start="-INF" end="+INF">
  <field>
    <name>__type</name>
    <value>projectVersion</value>
  </field>
  <field>
    <name>__project_version</name>
    <value>finalcut</value>
  </field>
  ...
</timespan>
```

Metadata

Projects and project version collections contains additional (non-timed) metadata that may be useful when searching for collection.

Field Name	Value
`__type`	`project` for project collections. `projectVersion` for project version collections.
`__project_name`	The name of the project.
`__project_version`	The format of the definitions that have been stored for a project version.

9.1.3 Project and sequence import and export

This page describes how to import and export *projects* and *sequences* from NLEs such as Final Cut Pro and Avid Media Composer.

Inspecting a project file

Before a project or sequence can be imported, the project file has to be inspected in order to find out which clips already exist in Vidispine as items, and which must first be imported.

The input should be an essence mappings document, which is also used for project and sequence import. It is required so that Vidispine can identify the items and files referenced by the input project file. The document can specify:

- The SHA-1 hash of a file. The response will then contain all items and shapes that reference that specific file.

- The item corresponding to a specific asset. Can be used after a previously unknown asset has been imported and the correct item is known. If the item has multiple shapes then the shape id must be specified as well.
- If a storage has been locally mounted on the client, then a storage mapping containing the id of the storage and the local path can be given. This will only be used if the input file references files by path.

Example

```
POST /collection/project/inspect?uri=file:///home/maria/sequence.xml&amp;type=finalcut
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<EssenceMappingDocument xmlns="http://xml.vidispine.com/schema/vidispine">
</EssenceMappingDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectFileDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <location>file:///home/maria/sequence.xml</location>
  <asset>
    <id>urn:uuid:8CED8AFE-1A67-4632-AB57-D5F5B1E0BC49</id>
    <name>Sequence 1</name>
    <type>sequence</type>
    <status>unknown</status>
  </asset>
  <asset>
    <id>urn:uuid:FCAD0878-7129-43DA-A8A0-696590EFE4DA</id>
    <name>Sample Clip B</name>
    <type>clip</type>
    <status>unknown</status>
    <file>
      <path>file://localhost/Users/maria/Sample%20Clip%20B.mov</path>
    </file>
  </asset>
  <asset>
    <id>urn:uuid:76BE320F-48E0-47A5-A076-227158C50024</id>
    <name>Clip A</name>
    <type>clip</type>
    <status>unknown</status>
    <file>
      <path>file://localhost/Users/maria/Movies/Vidispine/VX-1.mov</path>
    </file>
  </asset>
</ProjectFileDocument>
```

With the SHA-1 hash provided for all of the files:

```
POST /collection/project/inspect?uri=file:///home/maria/sequence.xml&amp;type=finalcut
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<EssenceMappingDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <file path="file://localhost/Users/maria/Movies/Vidispine/VX-1.mov" hash="7b8d6ffe1ea468800578d6b7c
  <file path="file://localhost/Users/maria/Sample%20Clip%20B.mov" hash="c7cfc97a9cf6634ad94766c0c4b07
</EssenceMappingDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectFileDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <location>file:///home/maria/sequence.xml</location>
```

```
  <asset>
    <id>urn:uuid:8CED8AFE-1A67-4632-AB57-D5F5B1E0BC49</id>
    <name>Sequence 1</name>
    <type>sequence</type>
    <status>unknown</status>
  </asset>
  <asset>
    <id>urn:uuid:FCAD0878-7129-43DA-A8A0-696590EFE4DA</id>
    <name>Sample Clip B</name>
    <type>clip</type>
    <status>unknown</status>
    <file>
      <path>file://localhost/Users/maria/Sample%20Clip%20B.mov</path>
    </file>
  </asset>
  <asset>
    <id>urn:uuid:76BE320F-48E0-47A5-A076-227158C50024</id>
    <name>Clip A</name>
    <type>clip</type>
    <item id="VX-1" match="file" permission="OWNER"/>
    <file>
      <path>file://localhost/Users/maria/Movies/Vidispine/VX-1.mov</path>
      <hash>7b8d6ffe1ea468800578d6b7d4a09b012c461569</hash>
      <file>
        <id>VX-1</id>
        <path>VX-1.mov</path>
        <uri>file:///mnt/storage/Vidispine/VX-1.mov</uri>
        <state>CLOSED</state>
        <size>30346173</size>
        <timestamp>2011-10-13T07:41:48.053+02:00</timestamp>
        <refreshFlag>727</refreshFlag>
        <storage>VX-1</storage>
        <item>
          <id>VX-1</id>
          <shape>
            <id>VX-1</id>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
          </shape>
        </item>
      </file>
    </file>
  </asset>
</ProjectFileDocument>
```

After the new asset has been imported into Vidispine:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectFileDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <location>file:///home/maria/sequence.xml</location>
  <asset>
    <id>urn:uuid:8CED8AFE-1A67-4632-AB57-D5F5B1E0BC49</id>
    <name>Sequence 1</name>
    <type>sequence</type>
    <status>unknown</status>
  </asset>
  <asset>
    <id>urn:uuid:FCAD0878-7129-43DA-A8A0-696590EFE4DA</id>
    <name>Sample Clip B</name>
    <type>clip</type>
    <item id="VX-2" match="file" permission="OWNER"/>
    <file>
      <path>file://localhost/Users/maria/Sample%20Clip%20B.mov</path>
      <hash>c7cfc97a9cf6634ad94766c0c4b0789cd86bcc33</hash>
      <file>
        <id>VX-2</id>
        <path>VX-2.mov</path>
        <uri>file:///mnt/storage/Vidispine/VX-2.mov</uri>
        <state>CLOSED</state>
        <size>30346173</size>
        <timestamp>2011-10-13T07:42:48.178+02:00</timestamp>
        <refreshFlag>727</refreshFlag>
        <storage>VX-1</storage>
        <item>
          <id>VX-2</id>
          <shape>
            <id>VX-2</id>
            <component>
              <id>VX-2</id>
            </component>
            <component>
              <id>VX-2</id>
            </component>
            <component>
              <id>VX-2</id>
            </component>
          </shape>
        </item>
      </file>
    </file>
  </asset>
  <asset>
    <id>urn:uuid:76BE320F-48E0-47A5-A076-227158C50024</id>
    <name>Clip A</name>
    <type>clip</type>
    <item id="VX-1" match="file" permission="OWNER"/>
    <file>
      <path>file://localhost/Users/maria/Movies/Vidispine/VX-1.mov</path>
      <hash>7b8d6ffe1ea468800578d6b7d4a09b012c461569</hash>
      <file>
        <id>VX-1</id>
        <path>VX-1.mov</path>
        <uri>file:///mnt/storage/Vidispine/VX-1.mov</uri>
        <state>CLOSED</state>
```

```
        <size>30346173</size>
        <timestamp>2011-10-13T07:41:48.053+02:00</timestamp>
        <refreshFlag>727</refreshFlag>
        <storage>VX-1</storage>
        <item>
          <id>VX-1</id>
          <shape>
            <id>VX-1</id>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
            <component>
              <id>VX-1</id>
            </component>
          </shape>
        </item>
      </file>
    </file>
  </asset>
</ProjectFileDocument>
```

9.2 Sequences definitions

9.2.1 SequenceDocument

SequenceDocument (XML complex type SequenceType) is a simple format for describing a sequence, with a model similar to sequences in the Final Cut Pro XML interchange format.

Structure

A sequence consists of a number of audio and/or video tracks, each with a number of segments. Each segment has a position in the timeline (`in` and `out`) and references a specific interval and track of an item (`item`, `sourceTrack` (1-based), `sourceIn` and `sourceOut`.)

For video the `sourceTrack` element specifies the **n** th video track that should be included. For audio it specifies a specific channel in an audio track. For example, for media with two audio streams each with two audio channels, `sourceTrack=3` would specific the first channel in the second audio stream.

The elements `in` / `out` and `sourceIn` / `sourceOut` corresponds to the Final Cut Pro XML elements `in` / `out` and `start` / `end` respectively. See Timing Values (http://developer.apple.com/library/mac/#documentation/AppleApplications/Reference/FinalCutPro_XML/Topics/Topics.html#//apple_
CH294-SW12) for more information.

Example

A sequence with a single video track with one second of video from the item with id `VX-1`.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SequenceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <track>
    <audio>false</audio>
    <segment>
      <item>VX-1</item>
      <sourceTrack>1</sourceTrack>
      <in>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </in>
      <out>
        <samples>25</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </out>
      <sourceIn>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceIn>
      <sourceOut>
        <samples>25</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceOut>
    </segment>
  </track>
</SequenceDocument>
```

If the item has 10 minutes of video and stereo audio, it could be included in a sequence like this:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SequenceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <track>
    <audio>false</audio>
    <segment>
      <item>VX-1</item>
      <sourceTrack>1</sourceTrack>
      <in>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </in>
```

```
      <out>
        <samples>15000</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </out>
      <sourceIn>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceIn>
      <sourceOut>
        <samples>15000</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceOut>
    </segment>
  </track>
  <track>
    <audio>true</audio>
    <segment>
      <item>VX-1</item>
      <sourceTrack>1</sourceTrack>
      <in>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </in>
      <out>
        <samples>15000</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </out>
      <sourceIn>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceIn>
      <sourceOut>
        <samples>15000</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceOut>
    </segment>
  </track>
```

```
  <track>
    <audio>true</audio>
    <segment>
      <item>VX-1</item>
      <sourceTrack>2</sourceTrack>
      <in>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </in>
      <out>
        <samples>15000</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </out>
      <sourceIn>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceIn>
      <sourceOut>
        <samples>15000</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </sourceOut>
    </segment>
  </track>
</SequenceDocument>
```

Effects

The table below describes the effects that can be added to segments in a sequence.

Effect	Parameter	Range	Description
crop	left	0.0–1.0	Percentage to crop from left side of the picture
	right	0.0–1.0	Percentage to crop from right side of the picture
	top	0.0–1.0	Percentage to crop from the top
	bottom	0.0–1.0	Percentage to crop from the bottom
position	vert	-Inf–Inf	Vertical offset in output in percentage.
	horiz	-Inf–Inf	Horizontal offset in output in percentage.
scale	scale	0.0–Inf	Horizontal and vertical scale.
rotation	rotation	Inf–Inf	Number of degrees to rotate picture, clockwise, around center.
opacity	opacity	0.0–100.0	The opacity, from fully transparent (0.0) to fully opaque (100.0).

Effects are added in the follow way:

```
<segment>
  ...
  <effect name="scale">
```

```
    <parameter name="scale" value="50"/>
  </effect>
</segment>
```

Effects can also be applied at specific key frames.

```
<segment>
  ...
  <effect name="scale">
    <parameter name="scale">
      <point position="0" value="0"/>
      <point position="125" value="100"/>
    </parameter>
  </effect>
</segment>
```

Transitions

The table below describes the transitions that can be added between segments in video tracks in a sequence. If a transition has a corresponding SMPTE wipe code (http://www.w3.org/TR/2005/REC-SMIL2-20050107/smil-transitions.html#TransitionEffects-Appendix) , then either the transition name or wipe code can be used to select that transition.

Transition	SMPTE Wipe Code
Dissolves	
CrossDissolve	-
DitherDissolve	-
FadeInOutDissolve	-
Wipes	
BandWipe	-
CentreWipe	21 or 22
CheckerWipe	-
InsetWipe	3, 4, 5 or 6
Iris Wipes	
CrossIris	7
DiamondIris	102
OvalIris	119
RectangleIris	101
StarIris	128

Example

A sequence with two clips that are transitioned using a star wipe:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SequenceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <track>
    <audio>false</audio>
    <segment>
      <item>VX-1</item>
      <sourceTrack>1</sourceTrack>
      <in>
        <samples>0</samples>
        <timeBase>
          <numerator>1</numerator>
```

```
        <denominator>25</denominator>
      </timeBase>
    </in>
    <out>
      <samples>15000</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </out>
    <sourceIn>
      <samples>0</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </sourceIn>
    <sourceOut>
      <samples>15000</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </sourceOut>
  </segment>
  <segment>
    <item>VX-1</item>
    <sourceTrack>1</sourceTrack>
    <in>
      <samples>0</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </in>
    <out>
      <samples>15000</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </out>
    <sourceIn>
      <samples>15000</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </sourceIn>
    <sourceOut>
      <samples>30000</samples>
      <timeBase>
        <numerator>1</numerator>
        <denominator>25</denominator>
      </timeBase>
    </sourceOut>
  </segment>
  <transition>
```

```
      <in>
        <samples>14975</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </in>
      <out>
        <samples>15025</samples>
        <timeBase>
          <numerator>1</numerator>
          <denominator>25</denominator>
        </timeBase>
      </out>
      <transition>StarIris</transition>
    </transition>
  </track>
</SequenceDocument>
```

CHAPTER

TEN

USERS, GROUPS, AND ACCESS CONTROL

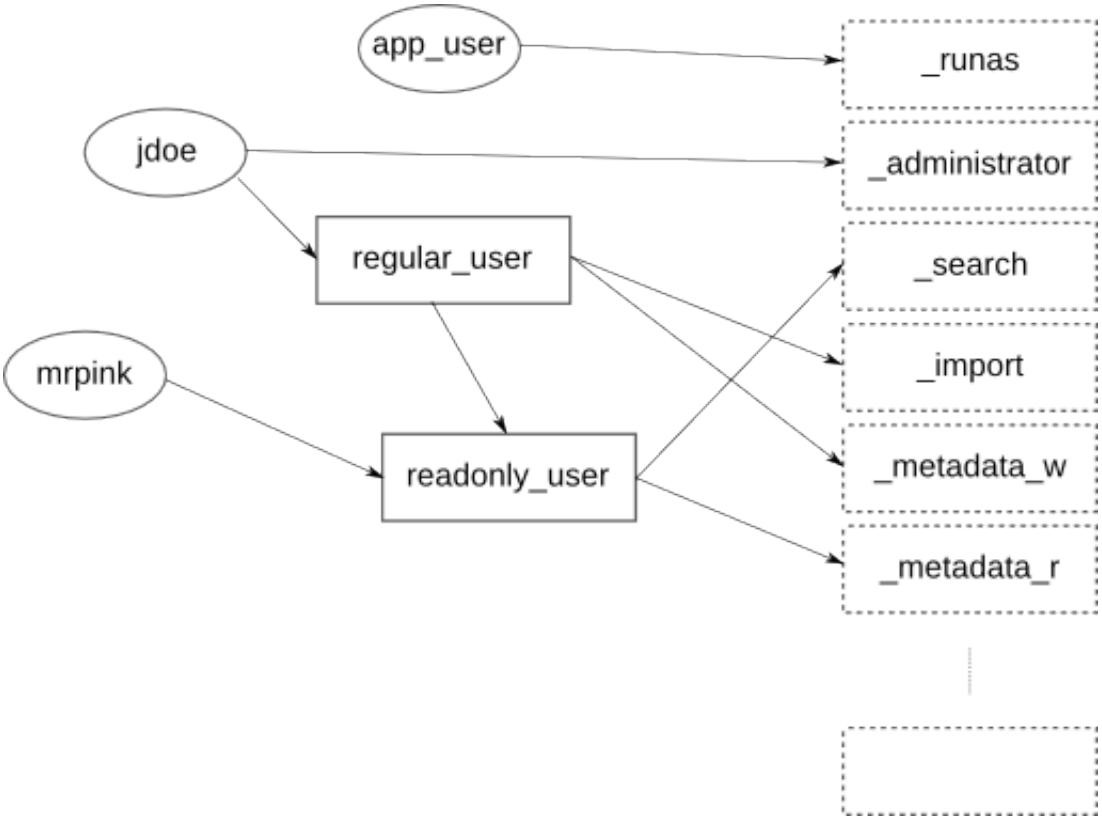
The user management system in Vidispine consists of users, groups, and roles.

- Roles are special groups, which cannot be added or deleted via the API.
- Regular groups and users can be added or deleted via the API.
- Users can belong to any number of groups or roles.
- Groups can depend on any number of groups or roles, although cyclic dependencies are not allowed.
- Roles cannot depend on any group or role.

To manage users and groups, see the *Users* and *Groups and roles* sections in the API reference.

10.1 Example

The following figure illustrates how users, groups and roles relate.



In the figure above, there are:

- Six roles: `_run_as`, `_administrator`, `_search`, `_import`, `_metadata_w`, and `metadata_r`.
- Two regular groups: `regular_user` and `readonly_user`.

  The group `readonly_user` depends on the roles `_search` and `_metadata_r`. The second group, `regular_user` depends on the roles `_import` and `_metadata_w`, and also the group `readonly_user`.

  In the last relation, `readonly_user` is called the **parent** group and `regular_user` is the **child** group. A user which belong to `regular_user` actually has all four roles.
- Three users: `app_user`, `jdoe`, and `mrpink`.

  The user `app_user` has the role `_run_as`, `jdoe` has the roles `_administrator`, `_search`, `_import`, `_metadata_w` and `_metadata_r` and `mrpink` has the roles `_search` and `_metadata_r`.

To visualize the users and groups like above, see *User/group visualization*.

10.2 Access control for items, libraries, collections

Items, libraries and collections have access control lists that determine what operations a user can perform. The entries in the list either corresponds to a specific user or to an entire group.

10.2.1 Overview

Vidispine will use the access controls on the item, library or collection to determine if a user has access to perform a specific operation or not.

All entities will have a OWNER access control that identifies the user that created the entity, and that grants full access to it.

```
<AccessControlListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <access id="VX-21">
    <loc>http://vs.example.com:8080/API/collection/VX-16/access/VX-21</loc>
    <recursive>true</recursive>
    <permission>OWNER</permission>
    <user>admin</user>
  </access>
</AccessControlListDocument>
```

Here the admin user has created a collection, and is thus the owner with full access. Access controls from collections, and libraries, are inherited to the entities in them. The `recursive` element can be used to control if the access control should apply to the child items or not.

Manage access controls using the *access control resource* on the entity in question. For example, to grant access to Users, but only allow them access to certain shapes:

```
POST /collection/VX-16/access
Content-Type: application/xml

<AccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <permission>READ</permission>
  <group>users</group>
</AccessControlDocument>

POST /collection/VX-16/access
Content-Type: application/xml

<AccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <permission>NONE</permission>
  <group>users</group>
  <operation>
    <shape>
      <tag>original</tag>
    </shape>
  </operation>
</AccessControlDocument>
```

To view the access controls that apply for an item, including any access controls inherited from parent collections or libraries, see *Viewing applied access controls*.

10.2.2 Access levels

The higher levels grants the permissions of the lower levels.

NONE Grants no permissions whatsoever.

READ Grants permission to read.

WRITE Grants permission to write.

ALL The highest level that grants permissions to perform operations such as item deletion.

OWNER A specific case of ALL that is given by the system. This level cannot be added or removed.

10.2.3 Priority

The access control lists are sorted in order to determine which entry that applies to a given operation. The rule of thumb here is that if there's a matching access control entry set on the item then that applies otherwise the item's ancestor collections and libraries are traversed. Then the collection or library that grants the **lowest** access will apply. If no matching access control entry can be found, access will be denied.

Furthermore an access control entry that is more specific take precedence over an entry that is less specific. If two entries are determined equally specific then the entry that grants the highest access applies. An example of this is that an entry that restricts access for an items entire metadata is considered less specific than one that only restricts access for a certain field in the metadata.

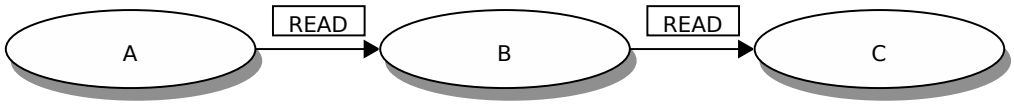
The above can be illustrated by the priority list below:

1. Controls with a high explicit priority take precedence over controls with lower explicit priority.
2. Controls directly on the item take precedence over controls on ancestor collections and libraries.
3. Controls that describe specific users take precedence over controls that describe groups.
4. Controls that are more specific take precedence over controls that are less specific.
5. If directly applied to an item:
    - Controls that grant more access take precedence over controls that give less access.
6. If applied to an ancestor collection or library:
    - Controls that grant less access take precedence over controls that give more access.

An explicit priority can be assigned by setting the `priority` element in the *AccessControlDocument* to the desired level. The default is 0. Note that only superusers can create access controls with an explicit priority as users would otherwise be able to gain access to entities that they shouldn't have.

10.2.4 Revoking access

The user that created an access control entry is also tracked. This is the *grantor*. It is also so that an entry is only valid if the grantor still has access to the entity. This means that access can be revoked by removing the original entry that granted access.



For example, let's assume that user A is the owner and grants READ access to user B, that in turn grants READ access to user C, as shown in the figure. Users A, B and C now all have read access. If the access control granting READ access to user B then the user C will no longer have access.

10.2.5 Operation

There are different types of operations that can be restricted using access control lists. Parameters are optional and makes the access control entry more specific. If no operation is specified then the entry will be considered generic and apply to the entire item.

URIs

Operation	/item/ {item-id} /uri	
Parameters	type	The type of the URI to restrict.

Example

```
<AccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <permission>READ</permission>
   <user>testuser</user>
   <operation>
      <uri>
        <type>lowres</type>
      </uri>
   </operation>
</AccessControlDocument>
```

Shapes

Operation	/item/ {item-id} /shape	
Parameters	tag	Restrict access to shapes with this tag.

New in version 4.1.

Example

```
<AccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <permission>NONE</permission>
   <user>testuser</user>
   <operation>
      <shape>
        <tag>lowres</tag>
      </shape>
   </operation>
</AccessControlDocument>
```

Metadata

Operation	/item/ {item-id} /metadata	
Parameters	field	The name of the field to restrict.

Caution: Removal of fields are currently not restricted
Currently fields can be removed without checking the specific access control entry.

Example

```
<AccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <permission>READ</permission>
   <user>testuser</user>
```

```
   <operation>
      <metadata>
        <field>title</field>
      </metadata>
   </operation>
</AccessControlDocument>
```

10.3 Access control for metadata fields

Metadata field access control lists can be used to control the usage of metadata fields and metadata field groups at a global level, i.e. they apply to all items. The default behavior for a field or a group without any access control list is to grant everyone full permissions.

In case of a conflict, i.e. one or more entries in the access control list for a certain field or group applies to the same user - the entry granting the highest level of permissions apply.

Note that metadata field access control lists are applied after any other access control list have been applied. So for example a metadata field access control list won't grant a user access to a certain field of an item's metadata if the user cannot access the item in the first place.

10.3.1 Permission levels

There are four levels of permission, higher levels of permissions include all other permissions. The semantics of each permission differs depending on if it is associated with a group or a field.

Permission	Field	Group
NONE	Grants no permissions whatsoever.	Grants no permissions whatsoever.
READ	Determines if user can see the contents of a field.	Allows for the group to be retrieved and seen when it is listed. Also allows for the group to be associated with items.
WRITE	Allows a user to set the value of a field.	Allows fields to be added and removed from the group.
DELETE	Allows a user to delete a field from the metadata of an item.	Allows deletion of the group.

10.4 User authentication

Authentication of users in Vidispine can be performed in a number of ways depending on the requirements of the calling application.

1. By passing the user credentials to Vidispine on each request and letting Vidispine authenticate the user based on the credentials stored in the Vidispine database.

   The default HTTP authentication method is HTTP basic authentication. To use a custom HTTP authentication method, have a look at *Apache Shiro Integration*.

2. Using Run-As: The application can itself authenticate the user and then connect to Vidispine using a service account with the Run-As privilege and with the Run-As option enabled, so that the request is then performed as the already authenticated user.

3. Creating a time-limited token using the API with one of the options above, see *Get an authentication token for a user*. This token can then be used in subsequent calls as credential by specifying the http header:

   ```
   Authorization: token {token}
   ```

10.4.1 Run-As option

The API supports the operation of having the calling application authenticate itself via a single password or a single certificate credential. The actual end-user can then be specified by the `RunAs` HTTP header. The calling application credential must have `_administrator` or `_runas` role. The actual end-user roles will be determined by the `RunAs` user's credentials.

A typical UI application scenario would be:

1. Have the user log in by providing user name and password.
2. Authenticate the user with `/user/{user-name}/validate`.
3. Store the user name with the session.
4. Use the `RunAs` header with all communication to the Vidispine API.

10.4.2 Apache Shiro Integration

New in version 4.1.

As of Vidispine 4.1 requests can be forwarded to Apache Shiro (http://shiro.apache.org/) for authentication, making it is possible to customize how **existing** users in Vidispine are authenticated. The Apache Shiro version that is bundled with Vidispine can be seen in the table below.

Vidispine version	Apache Shiro version
4.1	1.2.2

Custom configuration

On startup Vidispine will try to read a Apache Shiro INI configuration (http://shiro.apache.org/configuration.html#Configuration-INIConfiguration) file from `$instanceRoot/[config/]shiro.ini`. On GlassFish installations the instance root folder is typically `glassfish/domains/domain1/`.

The default configuration file that can be used as a template can be seen below.

Note: The token authentication filter and the Vidispine realm *must* always be kept so that requests performed internally by Vidispine will still function.

```
[main]
vidispineRealm = com.vidispine.security.auth.DefaultVidispineRealm
tokenAuth = com.vidispine.security.auth.TokenAuthenticationFilter
deny = com.vidispine.security.auth.DenyFilter

securityManager.realms = $vidispineRealm
authcBasic.applicationName = vidispineRealm

[urls]
/** = noSessionCreation, tokenAuth[permissive], authcBasic
```

Installing a custom filter or realm

1. Make the JAR file containing your custom filter or realm available on the classpath. On GlassFish the JAR file should be copied to `glassfish/lib/`.
2. Create a `shiro.ini` file based on the above template and modify it to your needs.
3. Start/Restart the application server.

Example: Static credentials

This is an example showing how to add a custom realm, in this case a IniRealm (http://shiro.apache.org/configuration.html#Configuration-%5Cusers%5C) that defines credentials for a static set of users directly in the configuration file.

```
[main]
vidispineRealm = com.vidispine.security.auth.DefaultVidispineRealm
tokenAuth = com.vidispine.security.auth.TokenAuthenticationFilter
deny = com.vidispine.security.auth.DenyFilter

securityManager.realms = $iniRealm, $vidispineRealm
authcBasic.applicationName = "vidispineRealm"

[urls]
/** = noSessionCreation, tokenAuth[permissive], authcBasic

[users]
admin=password
```

Testing the configuration:

```
GET /API/version HTTP/1.1
Authorization: Basic YWRtaW46cGFzc3dvcmQ=
User-Agent: curl/7.32.0
Host: localhost:8080
Accept: */*

HTTP/1.1 200 OK
...

GET /API/version HTTP/1.1
Authorization: Basic YWRtaW46YWRtaW4=
User-Agent: curl/7.32.0
Host: localhost:8080
Accept: */*

HTTP/1.1 200 OK
...

GET /API/version HTTP/1.1
Authorization: Basic YWRtaW46aW52YWxpZA==
User-Agent: curl/7.32.0
Host: localhost:8080
Accept: */*

HTTP/1.1 401 Unauthorized
...
```

Note: By default Apache Shiro will accept a request if at least one realm accepts the provided credentials, which is why the passwords `password` (accepted by `iniRealm` and `admin` (accepted by `vidispineRealm`) are both accepted.

10.5 LDAP

Vidispine can authenticate users against an LDAP server and automatically synchronize users and groups from a directory at regular intervals if required.

10.5.1 User authentication

For users to be authenticated by an LDAP server, the server must first be configured in Vidispine.

1. An LDAP *resource* must be created, containing the connection details. There can currently only be one configured LDAP resource.
2. LDAP authentication must be enabled using the `ldapAuthentication` configuration property.

Users that are successfully authenticated will be added to Vidispine and will have the `_user` role by default.

Example: Enabling LDAP authentication

First, create the LDAP resource:

```
POST /resource
Content-Type: application/xml

<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <ldap>
    <url>ldap://someserver:389</url>
    <useStartTLS>false</useStartTLS>
    <userDN>cn=Users,dc=example,dc=com</userDN>
    <usernameAttribute>sAMAccountName</usernameAttribute>
    <userSearchFilter>(objectClass=user)</userSearchFilter>
    <bindDN>cn=Administrator,cn=Users,dc=example,dc=com</bindDN>
    <bindPassword>password</bindPassword>
  </ldap>
</ResourceDocument>
```

Then enable LDAP authentication:

```
PUT /configuration/properties
Content-Type: application/xml

<ConfigurationPropertyDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <key>ldapAuthentication</key>
  <value>true</value>
</ConfigurationPropertyDocument>
```

Configuration

The elements in the LDAP resource are:

url The LDAP server(s) to connect to. Specify multiple servers to enable failover. Can be either `ldap://` or `ldaps://` (for SSL).

useStartTLS Enables/disables StartTLS. Will be ignored when connecting using SSL.

userDN The user search base.

userSearchFilter The user search filter. The default is `(objectClass=*)`. The search filter and username attribute together define the filter that is used in the user query:

```
(&(userSearchFilter)(usernameAttribute=username))
```

If a single entry is found then a second bind is made to authenticate the user.

usernameAttribute The attribute that contains a users username/login name. Must uniquely identify a user. The default is `sAMAccountName`.

realNameAttribute The attribute that contains a users real name. The default is `cn`.

cacheLifetime Passwords are cached to reduce the number of requests made to the server. This element specifies how long password should be cached (in milliseconds). The default is `1800000` (30 minutes).

usernameFormat Can be set to `lower` to force Vidispine to lower case all usernames read from the LDAP server.

The bind properties can be set so that Vidispine authenticates using a bind request before searching for users or groups:

bindDN The DN of the entry to bind to before searching for a user.

bindPassword The password to provide in the bind request.

10.5.2 User and group synchronization

Vidispine can automatically synchronize users and groups, as well as user and group dependencies. Synchronization will be enabled if the `sync` element has been set.

Users from the directory that do not exist in Vidispine can be automatically created. If this should be enabled or not is typically a matter of:

- Licensing. If you are restricted to a certain number of users, then you may not want to create them in Vidispine if they are not using the system.
- Application needs. Access to an item can only be granted to a user that exists in Vidispine for example.

Caution: Password validation using `PUT /user/(username)/validate` will not work for imported users unless `type=raw`. This because a users password won't be available until the user has authenticated successfully at least once before. Validation should instead be performed using normal HTTP authentication.

Configuration

The `sync` element in the LDAP resource controls the synchronization:

sync If set then users and groups will periodically be updated from the LDAP server.

sync/interval The interval in milliseconds between synchronization attempts. The default is `1800000` (30 minutes).

sync/importOrganizationalUnits Indicates whether or not organizational units should be created as groups in Vidispine. Only units having users or groups will be added (as well as the parent units to these.)

sync/createUsers If new users should automatically be created. If `false`, then existing users will be updated by new/unknown users will be ignored.

sync/createGroups If new groups should automatically be created. If `false`, then existing groups will be updated by new/unknown groups will be ignored.

Old installations may still use the `import` element.

import Deprecated since version 4.0: The `import` element was previously used to enable synchronization. Use `sync` with `createUsers=true` and `createGroups=true` instead.

How groups are synchronized can be configured using the elements below.

groupDN The group search base. The default is the same as `userDN`.

groupSearchFilter The group search filter. The default is `(objectClass=group)`.

groupnameAttribute The attribute that contains a groups name. The default is `name`.

Subgroups are supported, that is, if the LDAP group query returns two groups, A and B, and B is listed as a member of A, then B will be added as a subgroup of A in Vidispine.

Examples

Importing all users from the **Users** organizational unit from an Active Directory server:

```
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <ldap>
    <url>ldap://example.com:389</url>
    <userDN>cn=Users,dc=example,dc=com</userDN>
    <usernameAttribute>sAMAccountName</usernameAttribute>
    <userSearchFilter>(objectClass=user)</userSearchFilter>
    <bindDN>cn=Administrator,cn=Users,dc=example,dc=com</bindDN>
    <bindPassword>{password}</bindPassword>
  </ldap>
</ResourceDocument>
```

Importing only members of a certain group:

```
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <ldap>
    ...
    <userSearchFilter>(&amp;(objectClass=user)(memberOf=cn=mam,cn=Groups,dc=example,dc=com))</userSea
    <groupSearchFilter>(&amp;(objectClass=group)(memberOf=cn=mam,cn=Groups,dc=example,dc=com))</group
    ...
  </ldap>
</ResourceDocument>
```

Importing no groups, but creating groups to mirror the organizational unit tree structure.

```
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <ldap>
    ...
    <groupSearchFilter>(&amp;(objectClass=group)(|))</groupSearchFilter>
    <import>
      <importOrganizationalUnits>true</true>
    </import>
  </ldap>
</ResourceDocument>
```

The user Joe (`cn=Joe,ou=Users,dn=example,dc=com`) would then be added to the **Users** group.

Trigger LDAP synchronization

This resource can be used to force a synchronization of users and groups, for example to verify that it is working properly.

POST /resource/ldap/ (*resource-id*) **/sync**
Triggers a synchronization of users and groups.

If users and groups are already synchronizing, than this will have no effect.

10.5.3 Troubleshooting

If you are having problems with the LDAP integration then the best place to start is to check the LDAP *self test*. The test will connect to the LDAP server and list the users and groups that are found using the current configuration.

```
GET /self-test/ldap
Content-Type: application/xml

<SelfTestDocument xmlns="http://xml.vidispine.com/schema/vidispine" name="ldap" status="ok" took="1ms
  <message>No LDAP resource has been defined</message>
</SelfTestDocument>
```

You can also use tools such as ldapsearch (http://www.openldap.org/software/man.cgi?query=ldapsearch) or `ldp.exe` to verify the configuration:

```
$ ldapsearch -h ad.example.com -D "CN=VS,OU=Users,DC=example,DC=com" -W -b "OU=Users,DC=example,DC=co
```

If the configuration is correct, but users are still not being authenticated properly, then set the following log levels, try to authenticate once more and then check the application server log file to see what is going on.

```
com.vidispine.security=FINEST
com.vidispine.authentication=FINEST
```

For example, this error would indicate that the `userDN` element is missing:

```
Caused by: com.sun.enterprise.security.auth.realm.BadRealmException: A search base DN must be provide
        at com.vidispine.security.auth.realm.MultiRealm.init(MultiRealm.java:89)
        at com.sun.enterprise.security.auth.realm.Realm.doInstantiate(Realm.java:233)
```

Users are not assigned to the correct groups

Users will only be added to LDAP groups that have a corresponding group in Vidispine. If LDAP import is enabled then groups will also be created. Verify that the name attribute of the group corresponds to the name of the group in Vidispine.

Note that if a group is removed from the directory then the users will still be a part of the group. This is because we currently do not track which groups are to be synchronized with the groups from the directory, except by name.

Users can only log in by entering their upper case username

What you can do is set `usernameFormat` to `lower` in the LDAP resource. Vidispine will then lower case all usernames read from the LDAP directory. Your users can then login by entering their username in lower case, or in any letter case if your application is lower casing usernames.

Disabled the user can still login

A user will be marked as disabled if:

- The user has been removed from the directory.
- If the user has been disabled (Active Directory only.)

If users should be disabled based on some other criteria then update the user search filter so that it excludes users accordingly. For example:

```
(&(objectClass=user)(!(userAccountControl:1.2.840.113556.1.4.803:=2)))
```

It's still not working

Contact us directly and we will try to figure out what's going on.

CHAPTER

ELEVEN

MULTI-SITE

11.1 Multi-site

Vidispine supports syncing between remote sites, this is handled via *site rules*. In order to start using the multi-site capabilities, the sites must first be set up so they know about each other.

11.1.1 Site names

Every site must have a name. Out of the box, a Vidispine instance will have the site name `VX`. The site name determines what prefix the ID:s in the system will get (e.g. VX-1234) The site name can be changed by setting the Java system property `com.vidispine.site`. It is important that every site in a multi site setup have different names.

11.1.2 Multi site setup

Before anything can be synced between sites, Vidispine must be told how to connect to the remote sites. This is done by adding a site definition for each remote site. How this is done in practice is described in the *reference section*.

It is important to note that all sites must know about *all* other sites in order for the syncing to work properly! It is also important that the clocks on the different servers are set correctly, since for some operations the timestamps of changes are important.

11.1.3 Site rules

To determine which entities to sync to remote sites, Vidispine uses site rules. Site rules can be defined for a number of different entity types, and the rules can also define what parts of the item should be synced.

Site rules can be set for individual entities or collectively for all entities of a specific type (e.g. you could set a site rule applying only to item VX-100, or a rule that applies to all items in the system).

Site rules can be added for the following entity types:

- **Items**
- **Collections** All child entities will also be synced.
- **Libraries** All child items will be synced.
- **Users** Will also sync any parent groups.
- **User groups** Any child groups and users will be synced with the group.

Depending on what entity type the rule is posted to, a number of different settings are available. For item, collection and library rules, the following settings are available:

- **metadata** Whether or not to sync metadata
- **access** Whether or not to sync ACLs for the entities. This also requires that the affected users and groups have been synced, otherwise this setting will have no effect.
- **shape** Determines whether or not to sync a shape containing this tag.
- **files** Whether or not to also sync files or just shape information.

User and group rules have no special settings.

Setting a site rule on an entity will cause it to be synced to the remote site specified in the rule, and any future changes will also be synced. A synced item will be synced *both ways*. So any changes made on the remote site will be synced back to the original site as well.

Example

The following XML would describe a site rule for an item to the site NY. Metadata is synced, ACLs are not synced, and any `web` and `editing` shapes will be synced along with the files:

```
<SiteRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <site>NY</site>
  <metadata>true</metadata>
  <access>false</access>
  <shape>web</shape>
  <shape>editing</editing>
  <files>true</files>
</SiteRuleDocument>
```

11.1.4 Conflicts

When having a synced item on several sites, there is always the possibility of metadata conflicts occurring. In the Vidispine multi-site setup, it is handled as “last edit wins”. Meaning that the edit with the latest timestamp will win. This does not mean that the older change is lost however. A full history of all edits will still be available on all sites, and the old value can be manually brought back with a later edit.

CHAPTER

TWELVE

MONITORING

To get better insight into the operations of jobs and services you can collect metrics into your favorite monitoring service. Metrics are exposed using JMX and StatsD (https://github.com/etsy/statsd/).

Transcoders on the other hand only expose metrics using StatsD.

New in version 4.2.3.

12.1 StatsD

By default metrics are *not* sent to a StatsD server. To enable it you have to update the metrics configuration. For example, to have metrics sent to a StatsD server on `localhost` listening on UDP port 8125, use:

```
PUT API/configuration/metrics
Content-Type: application/xml

<MetricsConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <statsd/>
</MetricsConfigurationDocument>
```

Metrics sent to StatsD are by default prefixed with `vs.`. To have metrics sent with the prefix `vs1.`, for example if you have multiple instances running:

```
PUT API/configuration/metrics
Content-Type: application/xml

<MetricsConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <statsd>
    <host>metrics.example.com</host>
    <port>6125</port>
    <prefix>vs1</prefix>
  </statsd>
</MetricsConfigurationDocument>
```

Here metrics are sent to an external StatsD server on the non-standard port 6125. Note that the `.` between the prefix and metric name is added automatically.

12.1.1 Filtering metrics

You can set inclusion and exclusion filters to restrict which metrics are sent to the StatsD server. The default is to include all and exclude none.

Inclusion/exclusion filters may have a leading or trailing wildcard. For example, to exclude all `storage.fs` metrics:

```
<MetricsConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <statsd>
    <exclude>storage.fs.*</exclude>
  </statsd>
</MetricsConfigurationDocument>
```

12.1.2 Tagged metrics

Some metrics are tagged with additional information. These are sent to StatsD in the format:

```
<metricname>:<value>|<type>|#<tag>+
```

A `job.step.execution.time` metric might for example be sent as:

```
vs.job.step.execution.time:123|ms|#type:placeholder-import,step:100,sync
```

If your StatsD server does not support such tags then they can be disabled by setting `tags` to false:

```
<MetricsConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <statsd>
    ...
    <tags>false</tags>
  </statsd>
</MetricsConfigurationDocument>
```

12.2 JMX

Each metric is exposed as an JMX MBean in the "metrics" domain. You can view the metrics using for example:

- A JMX client such as VisualVM (http://visualvm.java.net/) with the VisualVM-MBeans plugin, or JConsole.
- Programmatically using the Java JMX client interface.
- Over HTTP/JSON using a bridge such as Jolokia (http://www.jolokia.org/).

12.3 Metrics

Metrics are exposed as either meters, timers or gauges. The name of a metric is meant to be self-explanatory. Timers are suffixed with `time` and meters are named as past tense verbs, while gauges make up the rest.

The StatsD type used for each metric, and the statistics exposed over JXM for each type are:

Type	StatsD type	MBean attributes
Meter	`c`	The count, mean and 1/5/15-minute rates.
Gauge	`g`	The value.
Timer	`ms`	The count, min/max/mean/stdev, rates and percentiles.

12.3.1 Indexing

- Meters:
  - `reindex.{index}.started`

  - `reindex.{index}.finished`
  - `indexer.solr.request.failed`
- Timers:
  - `indexer.solr.update.time`
  - `indexer.solr.delete.time`
  - `indexer.solr.commit.time`
  - `indexer.{index}.index.time`
    - With `index` being one of `item`/`collection`/`acl`/`file`.

12.3.2 Job

- Meters:
  - `job.created`
  - `job.started`
  - `job.finished`
  - `job.failed`
  - `job.blocked`
- Gauges:
  - `job.total.{state}`
    - Where `state` is the name of a *job state*, lower cased and with _ replaced with -. For example `finished-warning`.
- Timers:
  - `job.{type}.step.{step}.{sync}.execution.time`
  - `job.step.execution.time`
    - Tagged with `type:{type}`, `step:{step}` and `sync/async`.

12.3.3 Solr

- Meters:
  - `solr.request.failed`
- Timers:
  - `solr.query.time`
  - `solr.update.time`
  - `solr.commit.soft.time`
  - `solr.commit.hard.time`
  - `solr.optimize.time`

12.3.4 Storage

- Meters:
  - `storage.file.found`
  - `storage.file.changed`
  - `storage.file.deleted`
  - `storage.file.hashed`
  - `storage.file.checksum.bytes.read`
  - `storage.fs.stat`
    - The number of `stat` call made.

12.3.5 Transfer

- Meters:
  - `transfer.bytes.transferred`
  - `transfer.started`
  - `transfer.finished`
  - `transfer.finished-part`
  - `transfer.failed`
  - `transfer.blocked`

12.3.6 Service

- Meters:
  - `service.exception`
- Gauges:
  - `service.load.5`
    - The 5 minute load.
  - `service.load.60`
    - The 60 minute load.

12.3.7 Transcoder

- Gauges
  - `transcoder.{transcoder-id}.jobs.running`
  - `transcoder.{transcoder-id}.jobs.finished`
  - `transcoder.{transcoder-id}.jobs.failed`
  - `transcoder.{transcoder-id}.jobs.{transcoder-job-type}.running`
  - `transcoder.{transcoder-id}.jobs.{transcoder-job-type}.finished`

  - transcoder.{transcoder-id}.jobs.{transcoder-job-type}.failed

- Counters
  - transcoder.{transcoder-id}.muxer.video.frames
  - transcoder.{transcoder-id}.encoder.{codec}.frames
  - transcoder.{transcoder-id}.decoder.{codec}.frames
  - transcoder.{transcoder-id}.io.{protocol}.{direction}.bytes

CHAPTER

THIRTEEN

CONFIGURATION AND INTEGRATION

13.1 System configuration

13.1.1 Indexing configuration

The indexing configuration contains the parameters that relate to search and indexing.

- Where Vidispine can reach Solr or ZooKeeper.
- When to commit or soft commit.
- The Solr query request parameters.
- The default field settings.

This configuration replaces the configuration properties listed under *Search and indexing*.

Example

Full text indexing could be disabled for all fields, unless explicitly specified for a field, using:

```
<IndexingConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <solrPath>http://localhost:8088/solr</solrPath>
  <fieldDefault>
    <name>*</name>
    <fullText>false</fullText>
  </fieldDefault>
</IndexingConfigurationDocument>
```

13.1.2 Metrics configuration

See *StatsD* on how to configure how metrics are sent to StatsD. The configuration resource is described at *Metrics settings*.

13.1.3 FTP pool configuration

New in version 4.2.4.

By default jobs that need to read or write to an FTP server will establish, use and end separate connections to the server. By configuring a FTP connection pool you can change so that the jobs share and reuse FTP connections. This can reduce the time it takes to transfer files over high latency connections.

For example, to create a connection pool with the default settings:

```
PUT /configuration/ftp-pool
Content-Type: application/xml

<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool/>
<FtpPoolConfigurationDocument/>
```

If no pool is specified then pooling will be disabled. Unless overridden, the pool will be unbounded, and connections will expire after 1 minute. That is, the above configuration is identical to:

```
PUT /configuration/ftp-pool
Content-Type: application/xml

<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool>
    <minSize>0</minSize>
    <maxSize>-1</maxSize>
    <evictionInterval>30000</evictionInterval>
    <minIdleTime>60000</minIdleTime>
  </pool>
<FtpPoolConfigurationDocument/>
```

The FTP pool configuration resource is described at *FTP pool configuration*.

13.1.4 Database purging

Vidispine supports mechanisms for purging old information in database tables. Especially three tables can grow quite large without purging enabled.

Change-log table

New in version 4.2.4.

The change-log table holds information about data that should be sent to other *sites*. If multi-site is disabled (`disableSiteCrunching`), this table grows forever.

To enable purging of the table, two configuration properties are used: `changeLogPurgingTime` and `changeLogForcePurgingTime`. The first one controls deletion of entries that have been processed, the other one controls deletion of entries regardless of state.

Sensible values are 43200 and 86400, corresponding to one and two months, respectively.

Audit trail table

New in version 4.2.4.

The audit trail table contains all API requests, see *Audit trails*.

To enable purging of the table, two configuration properties are used: `auditTrailPurgingTime` and `auditTrailPurgingDirectory`. Both must be set in order for purging to take place.

When purging is enabled, entries that are older than `auditTrailPurgingTime` will be removed and put in a file inside the `auditTrailPurgingDirectory` folder.

A sensible value is 43200 or higher, corresponding to one month.

Job table

New in version 4.3.

To enable purging of the table, two configuration properties are used: *jobPurgingTime* and *jobPurgingDirectory*. Both must be set in order for purging to take place.

When purging is enabled, entries that are older than `jobPurgingTime` will be removed and put in a file inside the `jobPurgingDirectory` folder.

13.1.5 Configuration properties

Configuration properties are used in Vidispine to control system-wide parameters.

General

`apiUri`
URI to Application Server. Used by transcoder(s), so need to be proper host if transcoder(s) run on another machine.

Mandatory Yes

Example `http://localhost:8080/API/`

`apiNoauthUri`
URI to Application Server, to use to access the no-auth API. Used by transcoder(s), so need to be proper host if transcoder(s) run on another machine.

Example `http://localhost:8080`

`disableSiteCrunching`
Do not build site replication packages. Recommended to be set to `true` for systems not running site replication.

Default `true` since 4.2.6. Previous versions: `false`

Since 4.0.4

`validatexml`
Enable schema validation of the incoming and outgoing xml document.

Default `false`

Since 4.2.1

`slaveLicenseProxy`
Use a proxy for *Connection to Vidispine master license service*. Format is

- `http://IP:port/` or
- `socks://IP:port/`

Proxy authentication is not supported.

Default none

Since 4.2.5

Search and indexing

Deprecated since version 4.2: The Solr and ZooKeeper properties are deprecated. Use *Indexing configuration* instead.

solrPath
URI (**not path!**) to Solr.

Mandatory Yes (No for SolrCloud)

Example `http://localhost:8081/solr/`

zkHost
For SolrCloud: A comma separated list of host:port pairs to the servers in the ZooKeeper ensemble.

Mandatory No (Yes for SolrCloud)

Example `localhost:3000,example.com:3001`

Since 4.1

solrCollection
For SolrCloud: The collection in Solr to be used by Vidispine.

Mandatory No (Yes for SolrCloud)

Example `collection1`

Since 4.1

solrQueryTimeout
The request timeout in milliseconds to use when querying Solr.

Default `60000`

Since 4.1.1

solrPingAttempts
The number of times to ping a Solr node before aborting an active request.

Default `5`

Since 4.1.1

solrPingTimeout
The request timeout in milliseconds to use when checking if a Solr node. is alive

Default `5000`

Since 4.1.1

solrCommitInterval
The interval (in milliseconds) of Vidispine sending hard commit to Solr.

Default `10000`

solrSoftCommitInterval
The interval (in milliseconds) of Vidispine sending soft commit to Solr.

Default `-1` (disable)

solrAutoSoftCommit
If Vidispine should sending soft commit to Solr automatically.

Default `true`

solrUpdateQueueSize
Number of documents Vidispine will send in batch to Solr.

Default `100`

indexFieldGroups
If metadata field groups should be indexed in Solr. Setting this to `false` can reduce the load and the size of the index if items have a large number of groups in the metadata, but will mean that no results will be available when *searching for field groups*.

Default `true`

indexCollectionItemOrder
If the order of an item in a collection should be indexed in Solr. Settings this to `false` can greatly reduce the number of fields created in Solr and improve performance on systems with a lot of collections. This affects *collection item retrieval*. See also *Ordering collections*.

Recommended to be set to `false` for applications not relying on that feature. Requires a clean Solr index and a full re-index to take effect.

Default `true`

Since 4.2.8

maxSearchResults
Maximum number of search results allowed to be returned (see *Search items*).

Default `100`

legacyTransientFieldTypes
This setting controls the datatype of the transient metadata fields. If `true` then all transient fields will be of type `string`. If `false` the `*_size` and `*_count` fields will be of type `integer`, and the rest will have type `string`.

Default `true`

Metadata

disableMetadataSchema
If a metadata schema has been defined (see *schemas*), allows metadata that does not comply to the schema.

Default `false`

Authentication

passwordHashAlgorithm
The hash algorithm used to hash all user passwords. Note that changing this will make it impossible to authenticate with any existing user.

Default `MD5`

ldapAuthentication
If set to true, *LDAP* authenticated will be enabled.

Default `false`

userTokenMaxInterval
Maximum token time for token created by regular user, in seconds.

Default `60`

Since 4.2.2

userTokenDefaultInterval
Default token expiration time, in seconds.

Default `60`

Since 4.2.2

userTokenRefreshInterval
Minimum time between token refreshments, in seconds.

Default `10`

Since 4.2.2

Jobs and imports

concurrentJobs
Number of *jobs* that are allowed to be started.

Default `3`

jobRetryCount
Number of retries for a job step before job continues with next step.

Default `5`

defaultIngestStorage
The default destination storage for imports and transcodes. Note that storages selected by storage rules will take priority over this.

Example `VX-1`

parseFileMetadata
If set to true, file metadata will be metadata parsed and inserted as *Item metadata*. Supported formats for this type of metadata include Office formats and PDF files.

Default `false`

parseXMP
If set to true, XMP metadata will be parsed and inserted as *Item metadata*.

Default `false`

xmpIgnoreElements
Contains comma-separated list of elements that are not read when parsing XMP data.

Default `DocumentAncestors,Pantry,History`

Since 4.0.10

simpleImageProcessor
If false, use ImageMagick (must be installed, see Using ImageMagick for image handling (http://vidispine.tenderapp.com/kb/installation/using-imagemagick-for-image-handling)). Otherwise, use built-in image handling.

Default `true`

disableThumbnailGeneration
Will disable thumbnail generation by default. Can be overridden on a per job basis.

Default `false`

Since 4.0.3

alwaysGenerateThumbnails
When `true`, thumbnails will be generated on import even if no transcoding takes place.

Default `false`

Since 4.0.3

mediaCheckInterval
The retry interval of media check (seconds).

Default `3`

Since 4.1

Storage and file

keepMissingFiles
If set to false then missing files that do *not* belong to any items will be removed from the database instead of being marked as lost.

Can be overridden on a per storage basis using the `keepMissingFiles` storage metadata property.

Default `false`

Since 4.1

keepEmptyDirectories
Do not delete empty parent directories when deleting the last file in a directory, see *Parent directory management*.

Can be overridden on a per storage basis using the `keepEmptyDirectories` storage metadata property.

Default `false`

Since 4.2.5

fileHashAlgorithm
Hashing algorithm used. If changed, the `c_hash` column of the `t_file` table should probably be set to `NULL`.

Example `SHA-1`

enableTranscoderHashing
Off-load file hash calculation available transcoder.

Default `false`

Since 4.2.4

fileTempKeyDuration
Number of minutes a no-auth URI is valid (*Auto method types*).

Example `10`

useS3Proxy
When `true`, Vidispine will create S3 pre-signed URLs for reading during job.

Example `false`

Since 4.1

s3ProxyValidTime
The validate time (in minutes) of S3 pre-signed URL.

Example `60`

Since 4.1

s3ConcurrentParts
The number of threads used for each S3 file upload.

Default `1`

s3PartSize
The S3 chunk/part size. Note that multipart uploads are always performed regardless of file size.

Default `5242880`

s3ConnectionTimeout
The timeout (in milliseconds) when establishing a connection to S3.

Default `50000`

s3SocketTimeout
The timeout (in milliseconds) when reading from a connection to S3.

Default `50000`

s3MaxErrorRetry
The maximum number of times to retry a failed S3 request.

Default `3`

useAzureProxy
When `true`, Vidispine will create AZURE-SAS URLs for reading during job.

Example `false`

Since 4.1

azureSasValidTime
Specifies for how many minutes an AZURE-SAS URI will be valid. See *Get status of file in storage*.

Example `60`

Since 4.0.1

stornextFileMetadata
Specifies which fields that should be stored on the Vidispine file entity from StorNext metadata. See *StorNext Metadata*.

Default `location,class,existingCopies,targetCopies`

Since 4.2.3

useSegmentFiles
If `true`, files generated by the transcoder on storages that do not support partial modification are written as segment files on the storage, instead of local files on the application server. See *Temporary storages for transcoder output*.

Default `false`

Since 4.2.3

File system

Tip: Since 4.1.1, several of the `stat` system calls that was made by the JRE has been migrated into call in the JNI code. This can be enabled using the `localFSTimeData` option. On systems where local file systems are sensitive to stat loads, it is recommended to enable this option, and possibly the `statsPerSecond` option.

fileHierarchy
See *Using a tree structure for files*.

Example `0`

thumbnailHierarchy
See *Using a tree structure for thumbnails*.

Example `0`

> **Warning:** Changing this property **will cause old thumbnails to be lost**. If you need to change the value on a system in production, please contact Vidispine.

statsPerSecond
Limit the total number of stats done on local file system. See also per-storage metadata (*Storages*).

Since 4.1.1

localFSTimeData
Use JNI methods for retrieving file modification time. See below.

Default `false`

firstLastModifiedAsCreationTime
Use the first reading of modification time as the creation time. Can be used on file systems which do not have the notion of creation time.

Default `false`

disableATime
Do not record atime. Used in conjunction with localFSTimeData.

Default `false`

Since 4.2.5

Transfers

signiantManagerHost
Hostname of Signiant manager. See *Signiant Integration*

signiantManagerUser
Username for Signiant manager. See *Signiant Integration*

signiantManagerPassword
Password for Signiant manager. See *Signiant Integration*

enableTranscoderTransfer
Off-load file-to-file transfers of non-growing files to available transcoder.

Default `false`

Since 4.2.4

Library

libraryUpdateInterval
Default library update interval in the system (seconds).

Default `60`

Since 4.1

libraryExpireTime
Default library expire time in the system (seconds).

Default `86400`

Since 4.1

useLucene
If Lucene should be used directly when updating auto-refreshing libraries. This is faster than using Solr when there are a large amount of auto-refreshing libraries, but only works with the default Solr configuration that is shipped with Vidispine.

Default `false`

Since 4.0

Growing files

fileGrowingTimeout
The max time a file can keep growing (seconds).

Default `36000`

Since 4.1

fileNotGrowingTimeout
A file is considered as not growing if it has not been changed during this period (seconds).

Default `600`

Since 4.1

Services

itemDeleteInterval
The running interval (seconds) of `ItemDeleteCruncher` during the "idle" period (no item to delete).

Default `60`

Since 4.1

itemDeleteIntervalShort
The running interval (seconds) of `ItemDeleteCruncher` during the "busy" period (there are items to be deleted).

Default `5`

Since 4.1

itemDeleteExecutionTime
Max running time (seconds) of `ItemDeleteCruncher` thread, after that it goes to sleep.

Default `5`

Since 4.1

fileHashExecutionTime
Max running time (seconds) of a file hashing thread, after that it goes to sleep.

Default `10`

Since 4.1

Broker

compressDocumentMessages
If JMS messages containing XML should be compressed or not. If `true` then the JMS_SUN_COMPRESS (http://docs.oracle.com/cd/E19798-01/821-1796/aeqdf/index.html) property will be set on JMS messages so that compression/decompression is performed by the OpenMQ client.

Works only with OpenMQ.

Since 4.2.2

Default `true`

Database management

auditTrailPurgingTime
Remove all audit trail entries older than the specified time (in minutes) and put them in XML format in files inside the directory described by `auditTrailPurgingDirectory`. See *Audit trail table*.

Since 4.2.4

Default not set

auditTrailPurgingDirectory

Since 4.2.4

Default not set

changeLogPurgingTime
Remove all processed change-log entries older than the specified time (in minutes). See *Change-log table*.

Since 4.2.4

Default not set

changeLogForcePurgingTime
Remove all change-log entries (processed or unprocessed) older than the specified time (in minutes).

Since 4.2.4

Default not set

jobPurgingTime
Remove all job entries older than the specified time (in minutes) and put them in XML format in files inside the directory described by `jobPurgingDirectory`. See *Job table*.

Since 4.3

Default not set

jobPurgingDirectory

Since 4.3

Default not set

13.1.6 System properties

System properties are set as argument to the JVM. In GlassFish, this is done in the admin console:

Configuration → server-config → JVM Settings → JVM Options → Add JVM Option

The following properties are used in Vidispine:

com.vidispine.site
The site id prefix for the *current site*.

Default `VX`

com.vidispine.license.dir
The directory containing the Vidispine license or slave license file.

Default `${com.sun.aas.instanceRoot}`

Since 4.3

com.vidispine.license.tmpdir
The directory where temporary license files may be stored.

Default `${com.sun.aas.instanceRoot}`

Since 4.3

com.vidispine.credentials.dir
The directory containing credentials files such as the `AwsCredentials.properties` file used with Amazon S3 and Glacier.

Default `${com.sun.aas.instanceRoot}`

Since 4.3

com.vidispine.log.dir
The directory containing the server log files.

Default `${com.sun.aas.instanceRoot}/logs`

Since 4.3

vidispine.identifier.format
If `full`, output *Long identifiers*.

Default Normal, short identifiers.

13.2 External identifiers

External ids can be set on entities to provide an alternate way of accessing them. For example, instead of using the id VX-100 to access a particular storage, a custom external id such as `example_storage` can be used.

An external id is defined as the triple (entity type, namespace, value) and must be unique. The namespace is defined as the tuple (name, regular expression), where the regular expression is used to determine which namespace a given external id belongs to. It is therefore preferred that the set of possible values of a regular expression for a namespace is disjoint from the set of values for another namespace. Further note that set of values must also be disjoint from any *ids generated by the system*.

Managed namespaces using the *namespace resource*.

13.2.1 Priority

If the sets of possible values for all namespaces are disjoint, then no conflict exists. However, if they do have values in common there is an ambiguity regarding which namespace a particular value belongs to. This ambiguity is solved by that all namespaces have a priority value. Upon retrieving the namespaces they will be sorted in ascending ordering

according to the priority value (thus making a namespace with a smaller value more important than a namespace with a larger value).

Example

Given two namespaces, N1, matching alphanumeric strings, and N2, matching all strings, with N1 being more important than N2, then N1 will always match alphanumeric strings and N2 will match all other strings.

Namespace	Pattern	Priority
N1	`[a-zA-Z0-9]+`	5
N2	`.+`	10

If the priority values were reversed so that N2 had the smaller priority value, it would match all strings and N1 would match no strings.

13.2.2 Example: The UUID namespace

In this example we will create a namespace for UUIDs and assign a UUID as an external identifier for an item.

First we create the namespace and simply name it "uuid".

```
PUT /external-id/uuid
Content-Type: application/xml

<ExternalIdentifierNamespaceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <pattern>[A-Fa-f0-9]{8}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{12}</patter
    <priority>10</priority>
</ExternalIdentifierNamespaceDocument>
```

Then we assign a UUID to the item VX-11.

```
PUT /item/VX-11/external-id/69e436fe-eaed-4061-a66b-7d7c4bf80b20
```

Retrieving the definition:

```
GET /item/69e436fe-eaed-4061-a66b-7d7c4bf80b20/external-id

<ExternalIdentifierListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>
    <entityId>VX-11</entityId>
    <entityType>Item</entityType>
    <namespace>uuid</namespace>
    <externalId>69e436fe-eaed-4061-a66b-7d7c4bf80b20</externalId>
  </id>
</ExternalIdentifierListDocument>
```

13.3 License handling

Vidispine requires a valid license in order to run. The license controls how many items and storages may exist in the system, and controls which encoders and decoders are available when transcoding.

License keys can be obtained here: http://www.vidispine.com/license

13.3.1 How it works

The license is a physical file which must reside in the Java application server domain folder. The file is either called `License.lic` or `slaveAuth.lic` depending on if the licensing is standalone/master or a slave setup.

The Vidispine license is tied to your systems MAC address(es) (http://en.wikipedia.org/wiki/Mac_address). For Cloud-based systems with non-persistent MAC-address allocation (such as Microsoft Azure), a master-slave license setup can be used to ensure proper licensing of a Cloud based Vidispine instance.

Standalone Vidispine transcoder nodes are licensed through the API and do not need a local license file.

License types

Development/test/demo license This type of license allows for unlimited numbers of everything, for a certain period of time. All transcoded content will be watermarked.

Production license This type of license will allow for a certain number of users, assets, storages, transcoders and codecs according to what's purchased. Transcoded content will *not* be watermarked.

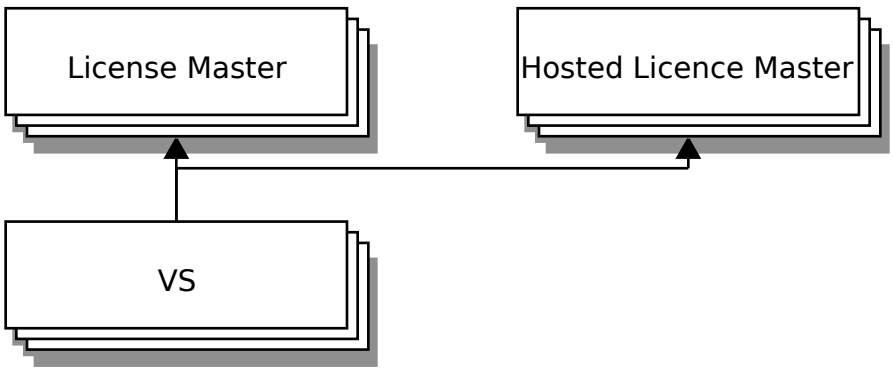
Deployment license When installing Vidispine using the installer, a non-MAC bound deployment license will be installed. This license will allow you to verify that your system was properly installed. The license will allow for 2 users, 100 assets, 1 transcoder, 1 storage area, and encoding/decoding of all codecs supported by Vidispine. All transcoded content will be watermarked.

License errors

If the license file is missing or if you have exceeded the license limits, a HTTP response 402 Payment Required (http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html#sec10.4.3) will be returned. Details on what limit(s) have been exceeded can be found from `GET /version`.

The response will also display the version numbers for the various installed Vidispine components.

13.3.2 Master-slave licensing



(Also called Cloud licensing)

This license model was introduced in order to license Vidispine instances running in environments with non-persistent MAC-address allocation, such as on virtual hosts, Microsoft Azure etc. The model allows you to set up your own license master to sublicense your Vidispine instances, i.e. slaves. Vidispine also offers a hosted master license service for such environments.

Note: The terms *master* and *slave* only refer to how the licensing is policed and has no relation to the actual role of your Vidispine instance.

Vidispine hosted license service

Vidispine offers a redundant online master license service for licensing of Vidispine systems in environments with non-persistent MAC-addresses. All you need is a `slaveAuth.lic` file for your server - contact us at license@vidispine.com for further information.

Connection to Vidispine master license service

The connection to the Vidispine master license service is done via HTTP and is tolerant to temporary error and outages.

If your infrastructure does not allow outbound HTTP connections, a proxy service can be used see `slaveLicenseProxy`. (New in 4.2.5.)

Configure your own master-slave setup

In order to set up your own license master, the master node(s) must reside on a server with a persistent MAC-address.

You need the following files:

1. A master license key (`License.lic`) to license your master node.
2. A slave license key (`Slave.lic`) to be installed on your master node (via the API) in order to allow slaves to connect to the master.
3. A slave connection string file (`slaveAuth.lic`) on the slave node(s) in order for the slave(s) to find the master.

The master and slave licenses are paired together by the property `MasterIdentifier`, which needs to be equal in both files. The slave license and the slave connection string files are paired together by the property `SlaveIdentifier`, which needs to be identical in both files.

Your master node needs to run the full Vidispine middleware (API) to enable the license master service.

Contact us at license@vidispine.com to obtain a master & slave license key pair.

Install master license on master node

Copy the master license key `License.lic` to your Java application server domain root folder on the master node.

License validity and status can be seen in the response from `GET /version`.

Install slave license on master node

Copy the slave license key `Slave.lic` (corresponding to the master key) to a convenient location on the master node, such as the Java application server domain root folder (do not rename the slave license file to `License.lic`, as this will overwrite the master node license file).

Make a `PUT /license/slave` request on the master node to install the slave license:.

Example

Using GlassFish, if the slave license is called `Slave.lic` and is located in the domain root, the request should be:

```
$ curl -X PUT -uadmin:admin http://localhost:8080/API/license/slave?path=Slave.lic
```

Install slave connection string file on slave (manual)

Create a file named `slaveAuth.lic` containing the `SlaveIdentifier` and IP-numbers of your master node(s). Copy the file to your Java application server domain root folder on the slave node.

The `SlaveIdentifier` property value must be equal to the `SlaveIdentifier` value in your slave license key installed on the master. The `MasterIP` property value must equal the IP numbers or DNS addresses of your master node(s).

Example

```
SlaveIdentifier=your-slave-id
MasterIP=http://192.168.0.1:8080/, http://my.other.server:8080/
```

Multiple IPs (comma separated) are supported for redundancy. A slave will automatically fail over to the secondary master if the primary master goes down, and vice versa.

License validity and status can be seen from `GET /version`.

Install or update slave connection string (via the API)

The slave connection string can also be installed using `PUT /APInoauth/license/auth-info`. For example:

```
PUT /APInoauth/license/auth-info
Content-Type: application/xml

<SlaveAuthInfoDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <masterHost>http://192.168.0.1:8080/</masterHost>
  <masterHost>http://my.other.server:8080/</masterHost>
  <slaveId>your-slave-id</slaveId>
</SlaveAuthInfoDocument>
```

License validity and status can be seen from `GET /version`.

13.3.3 Slave management and monitoring

See *Slave management and monitoring* on how to manage and monitor the connected slaves.

13.3.4 Redundancy and timeouts

A heartbeat request is performed from the slaves towards the master every 60 seconds. A slave will automatically fail over to the secondary master if the primary master goes down, and vice versa. If the slave does not receive a valid license from any master within 180 minutes, the slave goes into read-only-mode and it's entry will be deleted from

the list of slaves on the masters. A request to `GET /version` on the slave will report "License status invalid". The slave will go back to normal operation as soon as any of the masters become available again.

13.4 Using JavaScript to extend operations

JavaScript can be used to add integration code in a number of places, such as job tasks, transcode presets, naming scripts, etc. This article describes functions and utilities that are common to all JavaScript invocations.

If a script is not working as expected, then it is also possible to *debug the script* using Eclipse.

13.4.1 Common JavaScript functions

A number of global variables are defined for the script to use. It is also possible to add custom global JavaScript objects and functions, as described in *Add generic JavaScript code*.

The `api` object

The `api` object can be used to perform a synchronous HTTP request to the Vidispine API. By default the request will be performed as the user that created the job that is running, unless overridden by the script using the `api.user()` function.

These functions all return a new `api` object with the parameters of the function added to it, and should thus be chained as shown in the example below.

`api.`**`path`**(*path*)
Adds the given path to the API URI.

`api.`**`queryParam`**(*key*, *value*)
Adds a query parameter to the API URI.

`api.`**`dataType`**(*type*)
The type of data that should be returned from the server.

Arguments

- **type** (*string*) – Supported types are `text`, `json` and `xml`, or a media type such as *`application/json`*. The default is `json, xml`.

`api.`**`input`**(*input*[, *type*])
The data to be sent. The content type is optional if the input is a JavaScript or XML object, but mandatory if input is a string (such as a JSON or a XML string).

Arguments

- **type** (*string*) – Supported types are `text`, `json` and `xml`, or a media type such as *`application/json`*.

`api.`**`user`**(*username*[, *password*])
The user to authenticate as. If no password is specified then the request will be authenticated using token authentication.

`api.`**`timeout`**(*timeout*)
Sets the timeout of the request.

Arguments

- **timeout** (*int*) – The timeout in milliseconds.

New in version 4.0.3.

Once the request parameters have been specified the request can be performed using one of these four functions:

`api.get()`
Performs a GET request.

`api.put()`
Performs a PUT request.

`api.post()`
Performs a POST request.

`api.delete()`
Performs a DELETE request.

For example, to retrieve the metadata and shapes for a specific item:

```
item = api.path("item").path(itemId)
   .queryParam("content", "metadata,shape")
   .get();
```

Rich output

By adding `rich()` on the `api` chain, more information about the HTTP response is given. Without `rich`, the operation functions (`api.get()` et al.) only return the value returned by the API, and throws an exception if the API returns an error.

`api.rich()`
With `rich`, the functions returns a JavaScript object, with the following properties:

- `output` - The response, parsed as an object.
- `response` - The response as a string.
- `status` - The HTTP status code.
- `httpheader-*` - The various HTTP headers, with the HTTP header name in lower case, e.g. `httpheader-content-length`.

New in version 4.0.3.

API call information

To aid in troubleshooting API calls, this function can be used to get information about the call that is about to be made.

`api.getInfo()`
New in version 4.0.3.

Returns

A JavaScript object with properties:

- `uri` - The URI of the request.
- `queryParams` - A `javax.ws.rs.core.MultivaluedMap` containing all of the query parameters.
- `inputIsXML` - True if the input is an XML object.
- `inputIsJSON` - True if the input is a JSON object.

- `returnTypes` - The media types that have been set using `api.dataType()`.
- `user` - The name of the user performing the request.
- `passwordIsSet` - True if the password has been set.

The `http` object

New in version 4.0.3.

The `http` object is similar to the `api` object, but can be used to invoke other HTTP resources. The `http` object needs to be used with the `http.uri()` function, which takes one parameter, the URI to be used.

`http.`**`uri(uri)`**`:()`

Arguments

- **uri** (*string*) – The URI of the resource.

Example:

```
var uri = api.path('version').getInfo().uri;
http.uri(uri).user('admin','admin').dataType('JSON').get().licenseInfo.licenceType
```

The `shell` object

The `shell` object is used to invoke shell commands.

`shell.`**`exec`**`(`*command*`[`, *arg*, ...`][`, *options*`]`)

Executes the command with the given arguments.

Arguments

- **command** (*string*) – The name of the command to execute.
- **arg** (*string*) – Any arguments to pass to the command.
- **options** – A JavaScript object with fields:
  - `timeout` - An optional timeout in milliseconds.
  - `input` - Optional input to send to standard input.
  - `output` - Optional `java.io.OutputStream` to contain the output from the command. If this field is specified then `output` will not be included in the response.
  - `err` - Optional `java.io.OutputStream` to contain the error output from the command. If this field is specified then `output` will not be included in the response.

Returns

An object with fields:

- `exitcode` - The return code (an integer) from the command.
- `output` - Standard output as a string.
- `err` - Standard error as a string.

A step that checks a file for viruses might for example look something like:

```
var file = ...
var result = shell.exec("clamscan", file);
if (result.exitcode == 1) {
  job.failFatal("Virus(es) found");
}
```

The `logger` object

New in version 4.0.3.

The `logger` object outputs information to the log file of the application server. If the JavaScript object is concatenated to a string, the full representation may not be shown.

```
logger.log('information is '+info);
```

This can be fixed by using the `logger.json()` function:

```
logger.log('information is '+logger.json(info));
```

`logger.`**`log`**(*message*)
Logs the given message to the application server log file.

Arguments

- **message** – The message to log. If this is a JavaScript object then it will automatically be transformed into JSON format.

`logger.`**`json`**(*object*)
Converts the given JavaScript object into JSON.

13.4.2 Debugging JavaScript

New in version 4.0.3.

The JavaScript code can be debugged using Eclipse. The configuration property `debugJavaScript` controls if debugging is enabled or not. With this setting set to `true`, all JavaScript code will wait for a remote debugger to attach before continuing.

1. **Enable JavaScript debugging**. Set the configuration property `debugJavaScript` to `true`.

3. **Set up Eclipse**. To set up Eclipse for debugging, select *Run → Debug Configurations...* and create a new Remote JavaScript configuration. Use Mozilla Rhino as Connection, and port 59000. The port can be changed using the configuration property `debugJavaScriptPort`.

   For Source Lookup Path, select a File System Directory, and point it to any existing directory. The directory does not have to contain the source files; it will be sent via the Mozilla Rhino connector.

3. **Execute a script**. Now, Eclipse is ready to connect. To test, POST (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.5) some JavaScript code to `API/javascript/test`, e.g. using curl:

   ```
   $ curl -uadmin:admin -Hcontent-type:application/javascript \
   localhost:8080/API/javascript/test -X POST --data-binary \
   'var a=3;
   var b=4;
   a+b;'
   ```

   If `debugJavaScript` is `true`, then the call will not return immediately.

4. **Connect the debugger**. In Eclipse, choose *Run → Debug Configurations...*, select the created configuration and choose *Debug*.

   Eclipse should show a file named `testscript-xxxx.js` or similar in the source window. The first line includes the text `debugger;`. This is intentional and can be ignored; it is only added so that the debugger will actually start in suspended mode.

   Also, when the script starts, a random line – typically the second or third – is selected. Single-step once and the first line should be selected and the actual debugging can start. After the script has completed, the API call returns.

13.4.3 Interfacing with the JavaScript engine manually

New in version 4.0.3.

In order to test functionality, the JavaScript engine can be called manually. For more information, see *JavaScript*.

13.4.4 Add generic JavaScript code

In order to avoid redundant code, it is possible to register JavaScript code in a "global library". This is done using configuration properties of the form `javascript-{extension}`, where `extension` is any suffix.

When doing this, all code that is in the `javascript-` properties will be executed before the specific code. Multiple properties can be added, and will be parsed in lexical order. It is advised that only definitions (`function`) are made, and not direct statements, in order to avoid confusion.

Example

```
$ curl -uadmin:admin -Hcontent-type:text/plain \
localhost:8080/API/configuration/properties/javascript-1234 -X PUT --data-binary \
'function add(a,b) {
  return a+b;
}'
$ curl -uadmin:admin -Hcontent-type:application/javascript \
localhost:8080/API/javascript/test -X POST --data-binary \
'var a=3;
var b=4;
add(a,b);'
```

13.5 Archive Integration

Vidispine has no built in integration with any archive vendors. It is however possible to write your own integration scripts which Vidispine will then invoke when a file is to be archived.

13.5.1 Creating an archive storage

In order to get a working integration with an external archive, a special storage must be created with type ARCHIVE. For this integration to work, a script must be associated with the storage (described below).

Example

Creating an ARCHIVE storage:

```
POST /storage

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>ARCHIVE</type>
  <capacity>1000000000</capacity>
  <archiveScript><![CDATA[
...
]]></archiveScript>
</StorageDocument>
```

Integrating with an archive using JavaScript

To enable integration, a JavaScript must be written which will perform the actual archive operation. In order to be as flexible as possible, this script can both make API calls to Vidispine (*The api object*), and invoke shell operations (*The shell object*).

The script also has access to a `file` object. This object has the following functions defined:

`file.`**`getMetadata`**`(`*key*`)`
: If the specified metadata key is set on the file, the value is returned, otherwise null.

`file.`**`setMetadata`**`(`*key*, *value*`)`
: Sets the specified key-value pair as metadata on the file.

`file.`**`getAllMetadata`**`()`
: Returns a map of all file metadata.

The script must as its last assignment define an object with the following properties:

- `archive` - A function invoked when an archive is to be performed.
- `restore` - A function invoked when a restore is to be performed.
- `remove` - A function invoked when a delete is to be performed.
- `restorePartial` - A function invoked when a partial restore is to be performed. This function is optional. If it is missing and a partial restore is requested, the restore function will be invoked.

Example

A simple archive script. This script only performs file system copies and removes.

```
function getFilePath(url) {
  if (url.indexOf('file:///') === 0) {
    url = url.substring(7);
  }
  if (url.indexOf('file:/') === 0) {
      url = url.substring(5);
  }
  if (url.indexOf('/C:/') === 0) {
    url = url.substring(1);
  }
  return url;
}
```

```
o = {
  "archive": function(uri, id, data) {
    var archivePath = getFilePath(data.archiveDir);
    var path = getFilePath(uri);
    var filename = uri.substring(uri.lastIndexOf('/')+1);

    logger.log('Running command "cp '+path+' '+archivePath);

    var result = shell.exec('cp', path, archivePath);
    if (result.exitcode > 0) {
        throw "Failed to copy file to archive: "+result.err;
    } else {
        file.setMetadata('uri', archivePath+filename);
    }
  },
  "restore": function(uri, id, data) {
    var path = getFilePath(uri);
    var loc = getFilePath(file.getMetadata('uri'));

    logger.log('Running command "cp '+loc+' '+path);

    var result = shell.exec('cp', loc, path);
    if (result.exitcode > 0) {
        throw "Failed to copy file from archive: "+result.err;
    }
  },
  "remove": function(id, data) {
    var loc = getFilePath(file.getMetadata('uri'));

    logger.log('Running command "rm '+loc);

    var result = shell.exec('rm', loc);
    if (result.exitcode > 0) {
        throw "Failed to remove file: "+result.err;
    }
  }
};
```

13.5.2 Amazon Glacier

New in version 4.1.1.

Vidispine can archive files on Amazon Glacier. There are two different ways this can be achieved:

- Creating a separate Glacier storage and move files from other storages there for archival.
- Using an S3 storage and transition objects to the Glacier storage class.

Creating a dedicated Glacier storage

To create a storage used solely for Glacier archiving, you need to create a storage with an XML document like this:

```
<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>ARCHIVE</type>
  <bean>GlacierBean</bean>
  <capacity>100000000000000</capacity>
  <metadata>
```

```
    <field>
      <key>glacierVaultName</key>
      <value>{vault name}</value>
    </field>
    <field>
      <key>glacierEndpoint</key>
      <value>https://glacier.us-east-1.amazonaws.com/</value>
    </field>
  </metadata>
</StorageDocument>
```

Files can then be moved to this storage either using storage rules or by initiating a copy job (*Create a file move/copy job*). Restore jobs must be initiated using storage rules.

Note that restore jobs typically take several hours, and the restore job will be put in the WAITING state while the restore initiation is in progress. This is to allow other jobs to run during this time.

Transitioning files From S3 to Glacier

There is no way, using the AWS SDK, to directly initiate a transition to the Glacier storage class for a single object. Instead, Object Lifecycle Management (http://docs.aws.amazon.com/AmazonS3/latest/dev/object-lifecycle-mgmt.html) must be used. Vidispine will automatically detect when a transition to the Glacier class has happened, and put the file in the ARCHIVED state.

To restore a file so that it can be read directly, you can use the following request

PUT /storage/ (*storage-id*) **/file/**
*file-id***/restore**

Query Parameters

- **extraData** – `expirationInDays={number-of-days}`

This will cause Vidispine to ask Glacier to initiate a restore. Once the restore is complete, the file will be put in the CLOSED state, and it is available for direct access.

The `extraData` parameter can be used to specify that the restored files should be available for a limited time, in this example for five days. Once it has expired, it will be removed from direct access and once again end up in the ARCHIVED state. If no value is provided, a default of -1 will be used.

13.5.3 Front Porch Diva Integration

New in version 4.1.

Requirements

- StoragePlugin.jar

Installation

Deploy StoragePlugin.jar in GlassFish:

- Open the web administration console.
- Navigate to *Applications*.
- Click *Deploy...* and select the StoragePlugin.jar file.

- Make sure that *Type* is set to *EJB Jar* and that *Compatibility* is selected.
- Click *OK*.

Configuration

Set up a shared folder which is accessible by both Vidispine and DIVarchive manager.

POST the following document to /API/storage

```
<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
 <type>ARCHIVE</type>
 <capacity>1000000000000</capacity>
 <bean>DIVABean</bean>
 <metadata>
  <field>
   <!-- SSH host -->
   <!-- this is the hostname of the DIVA SSH service -->
   <key>hostname</key>
   <value>187.47.11.109</value>
  </field>
  <field>
   <!-- SSH username -->
   <!-- this is the username for the DIVA SSH service -->
   <key>username</key>
   <value>diva</value>
  </field>
  <field>
   <!-- SSH password -->
   <key>password</key>
   <value>diva</value>
  </field>
  <field>
   <!-- SSH port -->
   <key>port</key>
   <value>22</value>
  </field>

  <field>
   <!-- path to the shared folder on vidispine server -->
   <key>storagePath</key>
   <value>/shared/storage/</value>
  </field>
  <field>
   <!-- hostname or IP address for the DIVA manager -->
   <key>DIVAHostname</key>
   <value>187.47.11.109</value>
  </field>
  <field>
   <!-- TCP port for the DIVA manager -->
   <key>DIVAPort</key>
   <value>9065</value>
  </field>
  <field>
   <!-- Media name designates either a group of tape, or an array of disk
        declared in the configuration where the instance has to be created. -->
   <key>DIVAMediaName</key>
   <value>default</value>
```

```
  </field>
  <field>
   <!-- category -->
   <key>DIVACategory</key>
   <value>default</value>
  </field>
  <field>
   <!-- restore is not yet implemented -->
   <key>DIVARestoreDestination</key>
   <value></value>
  </field>
  <field>
   <!-- path to shared folder on DIVA server -->
   <key>DIVAFilePathRoot</key>
   <value>C:/shared/storage/</value>
  </field>
  <field>
   <!-- The value of this option is the name of the source/destination to be used
        by the specified command: archive, restore, copy... This server name
        must be a valid name as configured in the DIVA system. -->
   <key>DIVAServerName</key>
   <value>disk</value>
  </field>
 </metadata>

 <method>
  <uri>file:///shared/storage/</uri>
  <read>true</read>
  <write>true</write>
  <browse>true</browse>
 </method>
</StorageDocument>
```

Usage

To archive a file, copy it to the shared folder and wait for Vidispine to detect its presence. Once Vidispine has found the file, import it to trigger archiving.

Example using curl:

```
curl -X POST -uadmin:admin 'http://localhost:8080/API/storage/VX-4/file/VX-1/import' -Hcontent-type:a
```

Archiving should begin shortly.

13.6 Signiant Integration

Vidispine can initiate transfers between storages using Signiant. Some configuration is needed in order for this to work. Once all required configuration is set, Signiant will automatically be used for transfers between configured storages.

13.6.1 General system configuration

The following configuration properties must be set:

`signiantManagerHost` The hostname of the Signiant manager.

`signiantManagerUser` The manager username.

`signiantManagerPassword` The manager password.

13.6.2 Storage configuration

The following metadata field must be set on the source and destination storage (*Key-value metadata*).

`signiantAgent`

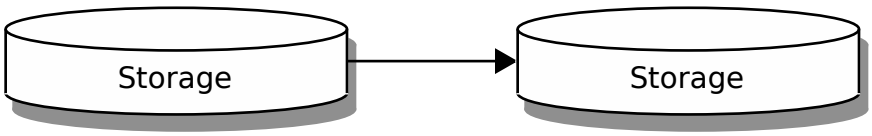
The name of the agent connected to this storage. This can also be set to an agent group using the format `<group_name>!<organization_number>`.

Storage methods

Each Signiant enabled storage needs a `file:/` storage method. This will be used to determine the source and destination paths for transfers.

13.7 Aspera Integration

Vidispine can initiate transfers between storages using Aspera. For this to work, the source and destination storages must first be configured properly.



13.7.1 Source storage configuration

The following metadata fields must be set on the storage (*Key-value metadata*).

`asperaRootPath` The absolute path to the storage root

Example `/usr/local/aspera-storage/`

`asperaWsdlLocation` The URL to the FIMS WSDL file for the Transfer Service

Example `http://10.18.12.10:8080/FIMS/TransferService?wsdl>`

`asperaStatusWsdlLocation` The URL to the FIMS WSDL for the Transfer Status Service.

Example `http://10.18.12.10:8080/FIMS/TransferStatusService?wsdl>`

If performing a transfer from this storage, and the destination is an Aspera URL, then Aspera will be used for the transfer.

13.7.2 Destination storage configuration

asperaDestinationUri The Aspera URI corresponding to the root folder of this storage

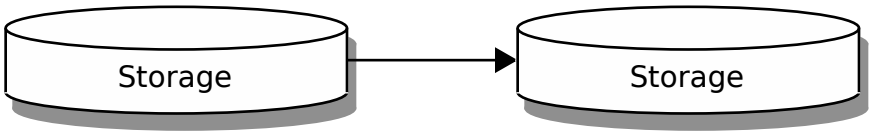
Example `fasp://10.18.12.11:22/usr/local/aspera-destination?user=username&passwo`

If a transfer is initiated to this storage, and the source storage is also configured for Aspera transfer, then Aspera will be used for the transfer.

13.8 FileCatalyst Integration

New in version 4.2.3.

Vidispine can initiate transfers between storages using FileCatalyst. For this to work, the source and/or destination storages must first be configured properly.



13.8.1 Transfer type

Three different transfers are supported:

1. Transfer between two storages listed in FileCatalyst Server.
2. Transfer from a local storage (with a `file` URI method) and a storage listed in FileCatalyst Server.
3. Transfer from a storage listed in FileCatalyst Server to a local storage.

13.8.2 Storage configuration

To specify that FileCatalyst can be used to transfer from/to a storage, a special Storage Method has to be added:

URI `filecatalyst://{user}:{password}/{host}[:{port}]/{any relative path from the FileCatalyst root}`

type `TRANSFER`

Example

Assume that Vidispine and FileCatalyst runs on the same server, and that you want to create a storage to handle `/srv/media/incoming`. Further assume that in FileCatalyst there is a user `fc` with password `s3cret` which has is FileCatalyst home root directory at `/srv/media`. Further, assume that FileCatalyst is running on port 2100.

Then the storage should look like:

```
<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>LOCAL</type>
  <method>
    <uri>file://srv/media/incoming/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <type>NONE</type>
  </method>
  <method>
    <uri>filecatalyst://fc:s3cret@localhost:2100/incoming/</uri>  <!-- /srv/media + incoming = /srv/m
    <type>TRANSFER</type>
  </method>
</StorageDocument>
```

13.9 MXFserver Integration

The MXFserver plugin allows Vidispine to integrate with MXFserver. The plugin allows collections to be created in Vidispine, representing business units, sections, modules, episodes and projects (here called **entities**.) Items added to a project collection will automatically be added to the MXFserver project.

13.9.1 Set up

The plugin can also extend *LDAP* so that business units and sections are created for imported users.

A JDBC resource should be configured in your application server for connecting to the MXFserver MySQL database. The `databaseName` element can be used to specify the JNDI name of the JDBC resource (default= `jdbc/mxfserver`). Typical connection pool settings are:

General settings	
Datasource Classname	com.mysql.jdbc.jdbc2.optional.MysqlDataSource
Resource Type	javax.sql.DataSource

Additional properties	
Url	jdbc:mysql://<mxfserver-ip-addess>:3307/system5
User	<username>
Password	<password>

Requirements

- The MySQL JDBC driver (http://www.mysql.com/products/connector/) , installed into GlassFish (`$GLASSFISH/lib`).

Installation

1. Configure the plugin by creating a MXFserver resource containing the MXFserver settings, by making a `POST` request to `API/resource/mxfserver` containing:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <mxfserver>
    <url>http://192.168.38.200:11000/mxfserver/</url>
```

```
    <workspaceUrl>file:///mnt/mxfserver/</workspaceUrl>
    <mxfServerWorkspacePath>C:\storage\Workspaces\</mxfServerWorkspacePath>
    <mxfServerUserId>1</mxfServerUserId>
    <mxfServerPathToStorage>C:\storage\Vidispine\</mxfServerPathToStorage>
    <storageId>VX-1</storageId>
    <db-host>192.168.38.200</db-host>
    <db-port>3307</db-port>
    <db-username>root</db-username>
    <db-password>Mastermeta</db-password>
    <atomShapes>atom</atomShapes>
    <importShapes>hd,original</importShapes>
  </mxfserver>
</ResourceDocument>
```

In the example above the (first) shape with the `hd` tag should be imported, if one exists, and the `original` shape should be used otherwise.

The elements are:

`mxfServerWorkspacePath` The path to the workspaces directory used by MXFserver.

`mxfServerUserId` The Vidispine MXFserver user id.

`mxfServerPathToStorage` The path to the Vidispine storage `storageId` as seen by MXFserver.

`storageId` The storage that contains the files that should be imported into MXFserver. Must be on the same file system as the MXFserver workspaces directory.

`atomShapes` Should contain the tags of the shapes that contain OP-Atoms, and for which QuickTime reference files will be created.

`importShapes` Contains the shapes that should be considered for import into a MXFserver project, ordered by priority.

2. Enable the plugin by setting the following configuration properties:

Property	Value	Note
`collectionPluginBean`	`MxfServerCommunicator`	
`ldap.import.plugins`	`MxfServerUserImportPlugin`	
`ldap.attr.businessUnit`	`Department`	
`ldap.attr.section`	`UoSCourse`	
`ldap.groupsAsFunctions`	`TRUE/FALSE`	(1)

   (a) If enabled then MXFserver functions will be created with the same names as the groups found in the directory.

3. To enable automatic import of new media added to projects, the MXFserver configuration file `Mxfserver.ini` needs to be updated with:

```
[API_OPTIONS]
notifyNewFilesHTTPLocation=http://[Vidispine server address]/MxfServerAPI/import
```

13.9.2 Usage

MXFserver entities are in Vidispine simply created as collections. A number of additional parameters are required, depending on the type of entity to create, as shown below. See *Collections* for more on how to manage collections.

Note that a collection will automatically be added as a child to the parent collection.

The query parameters are:

name={collection-name} The name of the collection and MXFserver entity.

type={entity-type} The type of MXFserver entity. Either `businessUnit`, `section`, `programme`, `episode` or `project`.

parent={parent-collection-id} The id of the parent collection/entity.

projectType={project-type} The type of MXFserver project.

projectBaseId={project-base-id} The project template to extend.

Example

Creating the MXFserver project hierarchy.

```
POST /API/collection/?name=NameOfBusinessUnit&type=businessUnit

POST /API/collection/?name=NameOfSection&type=section&parent=VX-1

POST /API/collection/?name=NameOfProgram&type=programme&parent=VX-2

POST /API/collection/?name=NameOfEpisode&type=episode&parent=VX-3
```

With a FCP (`projectType=2`) project based on the FCP7 template (`projectBaseId=30`).

```
POST /API/collection/?name=NameOfProject&type=project&parent=VX-4&projectType=2&projectBaseId=30
```

Caution: Note that projects can be created at any level in the hierarchy. However, the MXFserver client only allows projects to be created if an episode has been selected. An episode must also be selected before the details of a project can be edited and saved, which if done would cause Vidispine to be out of sync with MXFserver (it's one way sync from VS to MXFserver only.)

13.10 EVS IP Director Integration

New in version 4.1.

It is possible to map data inside "log info" (<Log>) in a EVS metadata file to Vidispine metadata.

13.10.1 Example

Import the EVS metadata file as a sidecar file with your essence file:

```
POST /import?URL=/vidispine/demo.dv&sidecar=file:///path/to/evs.metadata.xml"
```

so a EVS metadata that looks like this:

```
<EVS_Metadatas Revision="1">
  <General_Infos>
                ...
  </General_Infos>
  <Clips_Infos>
    <Clip>
      <XFile_Clip_Infos>
                              ...
      </XFile_Clip_Infos>
```

```
      <Other_Clip_Infos>
                              ...
        <Logs>
          <Log DBVersion="0" GUID="2b9de077-8e4d-4e48-ac8f-b2cdc05b0805" Version="2.0.1">
            <Date>21-Apr-2013</Date>
            <TC>15:00:33:01 </TC>
            <DateUser>21-Apr-2013</DateUser>
            <TCUser>15:00:33:01 </TCUser>
            <TCTable>1</TCTable>
            <Description>Mål av: 11. Selakovic, Stefan</Description>
            <TapeID />
            <InterestLevel>0</InterestLevel>
            <Colour>0</Colour>
            <AvidColour>#000000</AvidColour>
            <Keywords>
              <Keyword Type="Keyword">Mål</Keyword>
              <Keyword Type="Keyword">HBK</Keyword>
              <Keyword Type="Participant">11. Selakovic, Stefan</Keyword>
            </Keywords>
            <AutomaticKeywords>
              <AutomaticKeyword Description="" Header="Attendance" Type="NUMBER">4011</AutomaticKeywo
              <AutomaticKeyword Description="" Header="Away Team" Type="TEXT">Kalmar FF</AutomaticKey
              <AutomaticKeyword Description="" Header="HalfTimeScore" Type="TEXT">1-0</AutomaticKeywo
           </AutomaticKeywords>
          </Log>

      </Other_Clip_Infos>
    </Clip>
  </Clips_Infos>
</EVS_Metadatas>
```

will be translated to Vidispine metadata like:

```
<?xml version="1.0"?>
<timespan start="1350826@PAL" end="1350851@PAL">
  <group uuid="a0c2d689-bee3-48ea-8708-5228e533382c" user="admin" timestamp="2013-11-29T11:50:21.938-
    <name>EVS_Log</name>
    <field uuid="2eb192e7-1af8-4cde-9083-93e5c4c922bd" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_AvidColour</name>
      <value uuid="2d060045-bd11-4d17-bba2-5327d51d3ee7" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="9efabf9f-003d-437a-a459-3c1f9a4a306e" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_Colour</name>
      <value uuid="014a932c-bfc3-4a36-a209-c4f9f3389b0b" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="48323112-c06b-4ef3-855f-550f422f5d83" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_InterestLevel</name>
      <value uuid="264c55a3-4679-439d-ac2a-dd63f7e57b93" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="f035327f-c006-49cb-8ed3-2d4c78fd35e7" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_TapeID</name>
      <value uuid="81cc0f37-cf8d-4b3c-9641-a94367aa4a1d" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="ba4bc026-5900-4215-be94-515b4568379a" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_Description</name>
      <value uuid="ed800484-c646-46b7-8530-e6487f2dc637" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="3742dfeb-a100-4980-9db5-d3281342b9a8" user="admin" timestamp="2013-11-29T11:50:21.93
```

```
      <name>EVS_TCTable</name>
      <value uuid="06490341-dae1-42d7-a81a-abea7015bcb3" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="09f4af36-05f2-43f5-a063-ddc680ef18f4" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_TCUser</name>
      <value uuid="5e38b2cd-3d06-4a5a-8358-b6da51a58637" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="48df81fc-4ba3-4ad8-847f-22521a0ae89b" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_Date</name>
      <value uuid="bfc7b8e1-aa98-4f32-ad50-30e899c67834" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="b397b900-d869-4457-9351-e08fb53a5670" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_TC</name>
      <value uuid="45a6e2f3-2111-45ee-aa38-4373d710bc29" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <field uuid="87993aa8-6c61-49c8-a834-fb73649db7b7" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_DateUser</name>
      <value uuid="ea2b8cdd-4e91-4468-bbe7-00342f194ecd" user="admin" timestamp="2013-11-29T11:50:21.
    </field>
    <group uuid="d6db1d19-4bb5-41cc-a01b-faaa41eadf13" user="admin" timestamp="2013-11-29T11:50:21.93
      <name>EVS_Keywords</name>
      <field uuid="26755143-ad34-45b5-a68f-e0d6407beb5a" user="admin" timestamp="2013-11-29T11:50:21.
        <name>EVS_Keyword</name>
        <value uuid="eb83876d-0852-4b82-912d-4468324ff5e7" user="admin" timestamp="2013-11-29T11:50:2
      </field>
      <field uuid="1b8f7603-3623-4ae7-9b18-ac363973c2ae" user="admin" timestamp="2013-11-29T11:50:21.
        <name>EVS_Keyword</name>
        <value uuid="812085e9-175e-44f0-a74e-b27dec67dd33" user="admin" timestamp="2013-11-29T11:50:2
      </field>
      <field uuid="acb9a9b6-06d1-4e9a-8838-ab7efac97b59" user="admin" timestamp="2013-11-29T11:50:21.
        <name>EVS_Keyword</name>
        <value uuid="bd148e7d-f7d3-446d-8147-6af9cee23127" user="admin" timestamp="2013-11-29T11:50:2
      </field>
    </group>
  </group>
</timespan>

<timespan start="-INF" end="+INF">
  <group uuid="90cf23d4-2555-48b5-a38c-f284076f8cdd" user="admin" timestamp="2013-11-29T11:50:23.783-
    <name>EVS_MatchData</name>
    <field uuid="868c16d8-22cf-41d8-a2fe-bccc4221d686" user="admin" timestamp="2013-11-29T11:50:23.78
      <name>EVS_HalfTimeScore</name>
      <value uuid="ad12c72c-2030-41e9-81e0-7605869f501d" user="admin" timestamp="2013-11-29T11:50:23.
    </field>

    <field uuid="374c7c03-b54c-46fe-81ea-b52eef353fc2" user="admin" timestamp="2013-11-29T11:50:23.78
      <name>EVS_AwayTeam</name>
      <value uuid="4082bbfd-e875-445f-9baa-beec03cb6e5e" user="admin" timestamp="2013-11-29T11:50:23.
    </field>
    <field uuid="a97e745a-fcbb-42a3-b0f2-fc73b27ae7b9" user="admin" timestamp="2013-11-29T11:50:23.78
      <name>EVS_Attendance</name>
      <value uuid="e17dd5e3-f85c-4477-afc1-170c1d7f3d71" user="admin" timestamp="2013-11-29T11:50:23.
    </field>

  </group>
</timespan>
```

Please note that the values in `<AutomaticKeyword>`s will be mapped as global metadata (with timespan: (-INF,

+INF)), so it is a good place to store the metadata of the whole essence file.

13.11 StorNext Integration

New in version 4.2.3.

In version 4.2.3, beta support for Quantum StorNext file information is added. With this support, storage information from StorNext is added to the file information. StorNext version 5 and higher is supported, and the Web Services API and the http protocol must be enabled.

13.11.1 Storage configuration

In order for StorNext information to be retrieved, a special Storage Method has to be added:

URI `stornext://{user}:{password}/{host}:{port}/{StorNext path}`

type `HSM`

Here, user and password are the StorNext web services API credentials. (`webservice`, `webservice` by default on StorNext). Host and port is the StorNext endpoint (typically port 81). StorNext path is the base path prefixed to the file path when the StorNext API is queried. Typically, this is the same path as for the `file` method.

Example

Below is an example of a storage configuration where StorNext and Vidispine runs on the same machine, with the StorNext filesystem on `/stornext/snfs`.

```
<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>LOCAL</type>
  <method>
    <uri>file:///stornext/snfs/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <type>NONE</type>
  </method>
  <method>
    <uri>stornext://webservice:webservice@localhost:81/stornext/snfs/</uri>
    <type>HSM</type>
  </method>
</StorageDocument>
```

13.11.2 StorNext Metadata

When the StorNext endpoint is set up, Vidispine file archive status and metadata is updated.

- The file is marked as ARCHIVED if and only if StorNext `location` is exactly `TAPE`.
- The StorNext metadata fields `location`, `class`, `existingCopies`, and `targetCopies` are set on the file. This can be changed by modifying the configuration property `stornextFileMetadata`. It should be a comma separated list of StorNext metadata fields.

13.12 Cerify integration

The Cerify plugin allows Vidispine to integrate with Cerify from Tektronix. The plugin allows video files to be analyzed by Cerify during their import. RAW_IMPORT (New in 4.0.), PLACEHOLDER_IMPORT (New in 4.0.3.), ESSENCE_VERSION (New in 4.0.3.) and AUTO_IMPORT (New in 4.2.8.) are supported.

13.12.1 Installation

1. Configure Cerify. The minimum configuration required is the creation of a `MediaLocation` with a path that is shared between Cerify and Vidispine storage, and the creation of a Profile. The profile may be empty.
2. Configure the plugin by creating a Cerify resource containing the Cerify settings, by making a `POST` request to `API/resource/cerify` containing:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <cerify>
    <address>http://cerifyserver.example.com:80/CeriTalk?wsdl</address>
    <mediaLocation>
      <name>Name of Media Location</name>
      <storageMethod>VX-6</storageMethod>
    </mediaLocation>
    <cleanup>false</cleanup>
  </cerify>
</ResourceDocument>
```

   The elements are:

   address The URL of the Cerify web service.

   mediaLocation One or many media locations. If many media locations are configured, the storage method where the file is stored will determine which one to use.

   name The name of the media location. A media location with this name must be configured in Cerify.

   storageMethod The storage method that contains the files that should be analyzed by Cerify. Must be on a file system accessible by Cerify through the path configured in the corresponding media location.

   cleanup If set to true, jobs and media sets will be removed from Cerify after completion.

3. Update the task definition document by inserting a Cerify step at the appropriate position by making a `POST` request to `API/task-definition` containing something similar to:

```
<TaskDefinitionListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <task>
    <description>Executing Cerify job</description>
    <extradata>f</extradata>
    <flags>12</flags>
    <bean>CerifyJobBean</bean>
    <method>analyzeFile</method>
    <step>250</step>
    <dependency>
      <step>0</step>
      <previous>false</previous>
      <allPrevious>true</allPrevious>
    </dependency>
    <parallelDependency>
      <step>0</step>
      <previous>false</previous>
```

```
        <allPrevious>false</allPrevious>
      </parallelDependency>
      <jobType>RAW_IMPORT</jobType>
      <cleanup>false</cleanup>
      <critical>true</critical>
    </task>
  </TaskDefinitionListDocument>
```

Note: for ESSENCE_VERSION, the Cerify job step should run after step 400; for AUTO_IMPORT, the Cerify step should run after step 200.

13.12.2 Usage

The Cerify profile to use when analyzing a file is specified using the `jobmetadata` query parameter.

Import a file and let Cerify analyze it using the Cerify profile named `mpeg2 PAL`:

```
curl -X POST -u admin:admin --data-binary @test_file.mpg 'http://127.0.0.1:8080/API/import/raw?thrott
```

(New in 4.2.8.) For AUTO_IMPORT job, the job metadata can be set in the AutoImportRuleDocument. For example:

```
<AutoImportRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <tag>mp4</tag>
  <jobmetadata>
    <field>
      <key>cerifyProfile</key>
      <value>Vidispine test profile</value>
    </field>
  </jobmetadata>
</AutoImportRuleDocument>
```

When the file is being analyzed by Cerify there will be progress information available in the job. The metadata key is `cerifyProgress` and the value will be an integer between 0 and 100.

New in version 4.2.8.

Use the `cerifyPriority` job metadata field to set the Cerify job priority (LOW, MEDIUM, HIGH). For example:

```
curl -X POST -u admin:admin --data-binary @test_file.mpg 'http://127.0.0.1:8080/API/import/raw?thrott
```

13.12.3 Output

Upon completion the results from Cerify is added to the shape as bulky metadata. The following fields are available. Note that `cerify_alerts` might not always be present and its absence means that Cerify did not detect any problem with the file.

```
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>cerify_alert</uri>
  <uri>cerify_jobinfo</uri>
  <uri>cerify_streaminfo</uri>
</URIListDocument>
```

The element `cerify_alerts` contains all alerts produced by Cerify. Example:

```
<field start="466@3082500:128557" end="466@3082500:128557">
  <key>cerify_alert</key>
  <maps>
```

```
    <map>
      <entry key="alertFrame">http://10.185.0.7:80/ViewFrame.do?&jobmediafile=115&frame=467&audio=fal
      <entry key="alertId">22015</entry>
      <entry key="details">In Main profile / Main level, the maximum permitted value of f_code[0][1]
      <entry key="level">error</entry>
      <entry key="location">00:00:15;16 frame 467</entry>
      <entry key="title">Invalid f_code</entry>
      <entry key="trackId">-1</entry>
      <entry key="type">video</entry>
      <entry key="url">http://10.185.0.7:80/protected/AlertDetails.do?job=107&jobmediafile=115&frame=
    </map>
  </maps>
</field>
```

`cerify_streaminfo` contains general information about the analyzed file, such as peak volume level, frame rate, etc.

See the following documents for for more complete examples of metadata documents produced by this plugin:

- `cerify_alert.xml`
- `cerify_jobinfo.xml`
- `cerify_streaminfo.xml`

13.13 FIMS implementation

Vidispine implements the FIMS 1.0.7 Transform specification (http://wiki.amwa.tv/ebu/index.php/SPECIFICATIONS). Apart from the mandatory features, Vidispine also supports the following optional features:

- *Notifications* - Vidispine will send HTTP callbacks for events such as job success and job failure.
- *Job priorities* - Jobs can be assigned one of five priorities.

The services are available at the following location: http://localhost:8080/FIMS/TransformMediaService

13.13.1 Codecs and formats

Vidispine currently supports a subset of the container formats and codecs defined by EBU. For a full list of formats, see:

- Container formats specified by EBU (http://www.ebu.ch/metadata/cs/web/ebu_ContainerFormatCS_p.xml.htm).
- Video codecs specified by EBU (http://www.ebu.ch/metadata/cs/web/ebu_VideoCompressionCodeCS_p.xml.htm).
- Audio codecs specified by EBU (http://www.ebu.ch/metadata/cs/web/ebu_AudioCompressionCodeCS_p.xml.htm).

Container formats

The following container formats are supported in Vidispine.

ID	Name
7.1.2, 7.2.2.2	MP4
7.2.3	DV
7.2.4	AVI
7.2.11	MOV
7.2.19	MKV
7.2.15	FLV
7.2.7, 7.2.8	ASF/WMV
7.3.1, 7.3.1.3	JPG
7.3.8	PNG

Video codecs

The following video codecs are supported in Vidispine.

ID	Name
2	MPEG-2
5	MJPEG
6	JPG
9	H264
10	VC-1
20	DVVIDEO
28	VP8

Audio codecs

The following audio codecs are supported in Vidispine.

ID	Name
7.3, 8.4	MP3
7.2	MP2
8	AAC
11	PCM_S16LE
19	WMAv1

CHAPTER

FOURTEEN

TROUBLESHOOTING AND OBTAINING INFORMATION

14.1 Self test

New in version 4.0.

The Vidispine self test will generate a brief report about the system infrastructure for simple troubleshooting.

14.1.1 Tests

The tests are:

- `api` - The API test. Verifies both `api` and `apinoauth` resources.
- `solr` - Verifies the Solr configuration.
- `database` - Verifies that the database can be reached.
- `transcoder` - Verifies that the transcoder can be reached.
- `jms` - Verifies that the JMS queues are well configured.
- `tools` - Verify the existence of various external tools.
- `simplejob` - Verifies that the transcoder can execute a simple transcode job.
- `thumbnail` - Verifies the thumbnail configuration.
- `dbstats` - Returns some statistics from the database schema.
- `ldap` - Verifies the LDAP configuration.

14.1.2 Test results

There are four possible outcomes of a test:

OK Vidispine is well configured and running properly.

Warning Some configuration is not valid.

Failed There are tools missing, which could lead to failures of some functions.

Critical Important configuration or tools are missing or invalid, Vidispine will not run properly.

14.1.3 Running the test

Running the tests can take a while, depending on the size of the system. The `dbstats` is typically the slowest as it examines the number of rows in the database among other things. Hence, it sometimes can be beneficial to only run certain specific tests.

Use the *self test resource* to execute the tests. For example:

```
GET API/selftest
```

```
<SelfTestDocument xmlns="http://xml.vidispine.com/schema/vidispine" status="failed" took="38170ms">
  <test name="api" status="warning" took="408ms">
    <test name="adminApi" status="warning">
      <message>API is 4.2</message>
      <message>Transcoder VX-1 is ERROR: Could not connect</message>
      <message>Transcoder VX-2 is 4.1.4-gea8cc32-12511</message>
    </test>
    <test name="apiNoAuth" status="ok">
      <message>Base uri: http://localhost:8089/</message>
    </test>
  </test>
  ...
</SelfTestDocument>
```

14.2 Error log report

The error log report is used to collect information about the Vidispine installation, and contains information about certain jobs or items. A log report should always be included if you encounter an issue that you wish to report to us .

14.2.1 Usage

This tool is located at [your server]:8080/LogReport. After filling in all the information, press *Extract and collect logs* and wait while the system extract the needed logs; this might take a while. Then press on 'Save report' and save the created .zip-file on your computer. Then send this file to your Vidispine reseller.

Required fields

Error report information This is where you describe your problem. Be specific on what the problem is, what you did when it appeared.

Time span What time did the error occurred? Set start time and end time

Credentials Your Vidispine user-name and password

Optional fields Fill in this information if any is applicable on the particular problem you are having..

Job-ID The id of the job that failed, if applicable to the issue.

Item-ID The id of the item that the issue relates to, if applicable.

Storage-ID The id of the storage that the issue relates to, if applicable.

User Name of the Vidispine user that was used when this problem occurred.

14.2.2 Programmatically retrieving log files

New in version 3.3.

If your application has a custom form for reporting issues then you can instead collect the log files using the *Vidispine logs resource*.

For example, to retrieve a log report for a specific job:

```
GET API/vidispine-logs?job=VX-32&comment=Incorrect%20aspect%20ratio%20of%20transcoded%20image
Accept: application/zip

200 OK
Content-Type: application/zip
Transfer-Encoding: chunked

...
```

CHAPTER

FIFTEEN

STANDALONE VIDISPINE

New in version 4.3.

The standalone Vidispine server is an application that can be used to run Vidispine without the need of an application server such as GlassFish or JBoss. The application embeds Jetty and OpenEJB, which makes it possible to run Vidispine in an application server or as a standalone service.

The goal is to:

- Make installing, configuring and upgrading VS easier.
- Give us full control of the libraries used with VS.

The differences compared to running Vidispine on GlassFish:

- Solr will NOT run in the same JVM as Vidispine.
- ActiveMQ is used instead of the broker (OpenMQ/HornetQ) used by the application server. ActiveMQ can be run embedded or standalone.

Here's what you need to know:

15.1 Installing distribution-specific packages

Use our packages for your distribution to install Vidispine.

15.1.1 Install the packages

You can either install the packages from our repository, or download and install the packages from our download page.

Install from official repository

1. To install Vidispine directly from our repository, head over to the repository (http://repo.vidispine.com/) page and follow the instructions.

Install downloaded packages

1. Download the latest release from our download page (http://www.vidispine.com/partner/my-software).
2. Untar the downloaded package.

```
$ tar -xvzf vidispine-X.Y.tar.gz
$ cd vidispine-X-Y
```

3. Install the packages for your distribution:

   CentOS:

   ```
   $ yum install vidispine-*el6*.rpm transcoder-*el6*.rpm
   ```

   Ubuntu:

   ```
   $ dpkg -i vidispine-*.deb transcoder-*.deb
   $ apt-get install -f
   ```

   This will install Vidispine, Java and any additional dependencies required by Vidispine. There are also optional dependencies that can be installed manually:

   - Graphviz - if you wish to *visualize users* or *jobs*.

15.1.2 Initialize the database

1. Create and give Vidispine access to an empty database:

   ```
   $ psql -c "CREATE USER vidispine PASSWORD 'vidispine'";
   $ psql -c "CREATE DATABASE vidispine OWNER vidispine";
   ```

   On MySQL, make sure to use UTF-8:

   ```
   CREATE DATABASE vidispine CHARSET utf8 COLLATE utf8_bin;
   ```

2. Modify the configuration file accordingly:

   ```
   $ vi /etc/vidispine/server.yaml
   ```

   PostgreSQL:

   ```
   database:
     driverClass: org.postgresql.Driver
     url: jdbc:postgresql://localhost/vidispine
     user: vidispine
     password: vidispine
   ```

   MySQL:

   ```
   database:
     driverClass: com.mysql.jdbc.Driver
     url: jdbc:mysql://localhost/vidispine
     user: vidispine
     password: vidispine
   ```

3. Initialize and migrate the database:

   ```
   $ vidispine db ping # verify connection
   $ vidispine db check # verify if tables exists (they shouldn't)
   $ vidispine db init
   $ vidispine db migrate
   $ vidispine db check # should succeed
   ```

Note: The `/usr/bin/vidispine` command is simply an alias to `java -jar /usr/share/vidispine/server/vidispine-server.jar` that is provided by the vidispine-server package.

15.1.3 Start the services

1. If you're on CentOS 6 or Ubuntu:

   ```
   $ /etc/init.d/solr start
   $ /etc/init.d/transcoder start
   $ /etc/init.d/vidispine start
   ```

   On systems using systemd:

   ```
   $ systemctl start solr transcoder vidispine
   ```

2. Wait for Vidispine to start and then run APIinit to create the system metadata fields and the admin user.

   ```
   $ # wait for 8080 to become available, and then
   $ curl -X POST localhost:8080/APIinit
   ```

   Note: APIinit is a migration step that must be run manually. It will be made part of the migration command in the future.

   ---

3. To verify that Vidispine is running, access http://localhost:8080/API/version using curl or HTTPie (https://github.com/jakubroztocil/httpie), or directly in your browser. The default admin password is `admin`.

   ```
   $ curl -X GET "localhost:8080/API/version" -uadmin:admin
   ```

Troubleshooting

- If the Vidispine service fails, then check the syslog or journal for errors:

  ```
  $ less /var/log/syslog
  ```

  ```
  $ journalctl -xn
  ```

- If the service dies, or never becomes available for some reason, then check the server log:

  ```
  $ less /var/log/vidispine/server.log
  ```

- If the service fails to start with a "UnsupportedClassVersionError: Unsupported major.minor version 51.0", then make sure that the default system Java version is 7+ and not 6 or lower.

  ```
  $ sudo update-alternatives --config java
  ```

15.1.4 Configure Vidispine

Finally, you will need to *configure Vidispine*.

15.2 Quick setup

Before using Vidispine, make sure to create and configure a storage and thumbnail location, and to configure the transcoder.

1. Create a *storage*.

```
POST API/storage
Content-Type: application/xml

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>LOCAL</type>
  <method>
    <uri>file://path/to/files/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <type>NONE</type>
 </method>
 <autoDetect>true</autoDetect>
</StorageDocument>
```

2. Create a *thumbnail resource*.

```
POST API/resource/thumbnail
Content-Type: application/xml

<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <thumbnail>
    <path>file://path/to/thumbnails/</path>
  </thumbnail>
</ResourceDocument>
```

3. Configure a *trancoder*. For example, with Vidispine and the transcoder on the same server:

```
POST API/resource/transcoder
Content-Type: application/xml

<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <transcoder>
    <url>http://localhost:8888/</url>
  </transcoder>
</ResourceDocument>
```

Tip: Use curl, HTTPie (https://github.com/jakubroztocil/httpie) or the HTTP client of your choosing to make the requests. For example, using HTTPie:

```
$ http post "localhost:8080/API/storage" @storage.xml
$ http post "localhost:8080/API/resource/thumbnail" @thumbnail.xml
$ http post "localhost:8080/API/resource/transcoder" @transcoder.xml
```

15.3 Service configuration

15.3.1 The vidispine service user

The post-installation script in the packages will create the `vidispine` user and group if they do not exist.

If you want to make sure that the `vidispine` user has a specific UID and GID, then create the `vidispine` user and group manually *before* installing any packages.

15.3.2 Service dependencies

If you're running all components on the same server, then it can be beneficial to make sure that the transcoder and Solr is started before Vidispine. Note that this is only possible on systems running systemd.

```
$ vi /etc/systemd/system/vidispine.service.d/local.conf
[Unit]
Wants=transcoder.service solr.service

$ systemctl daemon-reload
$ systemctl enable vidispine
```

15.3.3 Setting JVM options

On Debian, edit the `/etc/default/vidispine` file:

```
$ vi /etc/default/vidispine
JAVA_OPTS=-Xmx8192m -XX:MaxPermSize=512m
```

Or on CentOS 6, the file `/etc/sysconfig/vidispine`:

```
$ vi /etc/sysconfig/vidispine
JAVA_OPTS=-Xmx8192m -XX:MaxPermSize=512m
```

On systems running systemd, create a file such as `/etc/systemd/system/vidispine.service.d/local.conf` and override the default JAVA_OPTS:

```
$ vi /etc/systemd/system/vidispine.service.d/local.conf
[Service]
Environment="JAVA_OPTS=-Xmx8192m -XX:MaxPermSize=512m"
```

15.4 Clustering

A cluster can be created by installing Vidispine on multiple servers and configuring all instances to connect to the same database.

The one setting that should be set is the `bindAddress`, which an instance will bind to and publish to the other members of the cluster.

```
cluster:
  bindAddress: vs1.example.com
```

You can also change the address that is published, for example if there's a firewall with port forwarding rules set up in front of each server.

```
cluster:
  bindAddress: vs1.example.com
  bindPort: 7800
  bindPortRange: 0
  externalAddress: fw.example.com
  externalPort: 7801
```

Note: For this to work you also need to use an external ActiveMQ instance, so make sure that the embedded broker is disabled and that the configuration points to your ActiveMQ instance:

```
broker:
  url: tcp://activemq.example.com:61616
  #embeddedBroker: broker:(tcp://localhost:61616)
```

15.4.1 Quick cluster setup

It is also possible to create a cluster on a single machine by starting multiple server processes each with a different configuration file.

```
$ cp server.yaml instanceA.yaml instanceB.yaml
$ vi instanceA.yaml instanceB.yaml
```

Make sure that all instances have distinct ports. Then start the instances that are to be part of the cluster:

```
$ java -jar vidispine-server.jar server instanceA.yaml 2>&1 1>instanceA.log &
$ java -jar vidispine-server.jar server instanceB.yaml 2>&1 1>instanceB.log &
```

Tail the log and you should see that the processes have found each other and have formed a cluster.

```
INFO  [2015-05-27 13:06:27,652] [403] org.infinispan.remoting.transport.jgroups.JGroupsTransport: ISI
```

15.5 Server configuration

Dropwizard 0.7.1 is used to start and configure Jetty and to parse and validate the command line and configuration file. This is only mentioned here as the Dropwizard Configuration Reference lists and explains the base settings that can be used in the configuration file.

- Dropwizard 0.7.1 Configuration Reference (http://dropwizard.github.io/dropwizard/0.7.1/docs/manual/configuration.html)

Unfortunately the database properties are absent from the 0.7.1 reference. Have a look at the 0.8 reference instead. However, the `validationQueryTimeout` property is new in 0.8 and is *not* supported in 0.7.1.

- Dropwizard 0.8 Database Configuration (http://dropwizard.github.io/dropwizard/0.8.0/docs/manual/configuration.html#database)

15.5.1 Environment variables

Environment variables can be used in the YAML configuration file.

For example:

```
database:
  driverClass: org.postgresql.Driver
  url: jdbc:postgresql://${DATABASE_HOST}/${DATABASE_NAME}
  user: ${DATABASE_USER}
  password: ${DATABASE_PASSWORD}
```

15.5.2 Additional settings

In addition, the following properties are supported:

broker

Configures how to connect to ActiveMQ.

- user: The user to authenticate as.
- password: The password to authenticate using.
- url: Default is "tcp://localhost:61616".
- embeddedBroker: The broker URI (http://activemq.apache.org/broker-uri.html) to use to start an embedded broker. For example "broker:(tcp://localhost:61616)". Default is "" (no embedded broker).

Note: If you are using embedded ActiveMQ with KahanDB, the KahanDB journal log could keep growing if there are expired messages in the queue "ActiveMQ.DLQ".

To fix this, you will need to enable jmx in the broker URI (http://activemq.apache.org/broker-uri.html) , and purge the queue manually using activemq-admin (http://activemq.apache.org/activemq-command-line-tools-reference.html).

```
embeddedBroker: broker:(tcp://localhost:61616)?usekahadb=true&kahadb.directory=/path/to/db/&persister
```

```
./activemq-admin -Dactivemq.jmx.url=service:jmx:rmi:///jndi/rmi://localhost:1099/jmxrmi purge ActiveM
```

Or setup a standalone ActiveMQ instance, and set *processExpired="false"*

http://activemq.apache.org/message-redelivery-and-dlq-handling.html

---

ejbPool

These settings configures the stateless container in OpenEJB. They are explained in more detail at http://tomee.apache.org/containers-and-resources.html.

- maxSize: The maximum number of beans in the stateless bean pool. Default is 10.
- idleTimeout:
- strictPooling: If the pool may NOT grow larger then maxSize. Default is false.

cluster

- bindAddress: The address to bind on, as an IP address or hostname. Default is 127.0.0.1.
- bindPort: The port to bind on. Default is 7800.
- bindPortRange: The range of ports to try in case bindPort is taken. Default is 30.
- externalAddress: The address to publish to members in the cluster. Default is bindAddress.
- externalPort: The port to publish to members in the cluster. Default is the port that was bound on.

15.6 Package reference

15.6.1 Packages

The packages provided by Vidispine are:

vidispine-server The Vidispine server application.

vidispine-solr The latest supported version of Apache Solr, bundled with the Solr config and schema used by Vidispine.

vidispine-tools Optional command line tools.

transcoder The Vidispine transcoder.

15.6.2 Files

The key files used by Vidispine:

/etc/vidispine/server.yaml The server configuration file.

/etc/vidispine/License.lic Your Vidispine license.

/etc/vidispine/slaveAuth.lic Your slave license file when using master/slave licensing.

/var/lib/vidispine/activemq/ The default location of the ActiveMQ data files when running an embedded broker.

/var/lib/vidispine/solr/ The location of the Solr cores.

/var/log/vidispine/server.log The Vidispine server log file.

/var/log/vidispine/transcoder.log The Vidispine transcoder log file.

See also:

See our knowledge base articles (http://vidispine.tenderapp.com/kb/guides) for how to install Vidispine onto an application server.

CHAPTER

SIXTEEN

API REFERENCE

16.1 Access controls

16.1.1 Managing access controls

In the text below only `/item/` resource is specified but the same syntax applies for the `/collection/` resource.

Retrieve access control list for an item

GET /item/ (*item-id*) **/access/**
Retrieves the entire access control list for the specified item.

Produces

- **application/xml, application/json** – *AccessControlListDocument*

Role _accesscontrol_read

Add a new entry access control entry

POST /item/ (*item-id*) **/access/**
Adds a new access control entry for the specified item.

Accepts

- **application/xml, application/json** – *AccessControlDocument*

Produces

- **text/plain** – The id of the created entry.

Role _accesscontrol_write

Example

```
POST /item/VX-123/access/
Content-Type: application/xml

<AccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <permission>READ</permission>
   <group>testGroup</group>
   <operation>
      <uri/>
```

```
   </operation>
</AccessControlDocument>
```

Retrieve a specific access control entry

GET /item/ (*item-id*) **/access/**
access-id Retrieves the desired access control entry.

Status Codes

- **404 Not found** – No entry with that id exists in that item.

Produces

- **application/xml, application/json** – An *AccessControlDocument* containing the requested access control entry.

Role _accesscontrol_read

Delete a specific access control entry

DELETE /item/ (*item-id*) **/access/**
access-id Removes the desired access control entry.

Status Codes

- **200 OK** – The entry was successfully removed.
- **404 Not found** – No entry with that id exists in that item.

Role _accesscontrol_write

Add access control entries to all items

POST /item/access/
Adds access control entries to all known items.

Accepts

- **application/xml, application/json** – *AccessControlDocument*

Role _administrator

Remove all access control entries from all items

DELETE /item/access/
Deletes all access control entries from all known items.

Role _administrator

16.1.2 Default access controls

Each user can specify what access control that will be applied to an imported item. The user importing the item will always be granted OWNER permissions.

List the default access controls for the current user

GET /import/access/
Lists the access control list that will be applied on imported items.

Produces

- **application/xml, application/json** – An *ImportAccessControlListDocument*

Role _import

Example

```
GET /import/access
```

```
<ImportAccessControlListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <group>
      <name>mygroup</name>
      <permission>READ</permission>
   </group>
</ImportAccessControlListDocument>
```

Add a group to the default access control list

PUT /import/access/group/(*group-name*)
Sets the permissions for a certain group.

Query Parameters

- **permission** – The level of permissions to grant the group.

Role _import

Example

```
PUT /import/access/group/mygroup?permission=READ
```

```
200 OK
```

Remove a group from the default access control list

DELETE /import/access/group/(*group-name*)
Removes the specified group from the default access control list.

Role _import

Example

```
DELETE import/access/group/mygroup
```

```
200 OK
```

16.1.3 Viewing applied access controls

To review all access control entries that affects an item an *AccessControlMergedDocument* can be retrieved.

Retrieve a list of applied access control entries

There are two modes of operation, either retrieving the access on the item for all users or querying for the access of a specific user. In the former case no parameters are specified and in the latter all parameters must be supplied. The entries will be listed according to priority for every user. If the access is given through a group or a collection, the names and ids of those will be given.

GET /item/(*item-id*)**/merged-access/**

Query Parameters

- **username** – The name of the user to check.
- **permission** – The lowest required permission level.
- **type** – The type of operation to check for.

Produces

- **application/xml, application/json** – An *AccessControlMergedDocument* containing all access control that affects the item.

Role _accesscontrol_read

Example: retrieving all entries

```
GET /item/VX-250
```

```
<AccessControlMergedDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <access priority="1" id="VX-3111" username="admin">
    <permission>ALL</permission>
    <type>GENERIC</type>
  </access>
  <access priority="2" id="VX-24112" username="admin">
    <permission>WRITE</permission>
    <type>GENERIC</type>
    <collection>VX-10</collection>
  </access>
  <access priority="3" id="VX-4119" username="admin">
    <permission>ALL</permission>
    <type>GENERIC</type>
    <collection>VX-23</collection>
  </access>
  <access priority="4" id="VX-2221" username="admin">
    <permission>ALL</permission>
    <type>GENERIC</type>
    <collection>VX-12</collection>
  </access>
  <access priority="5" id="VX-2205" username="admin">
    <permission>ALL</permission>
    <type>GENERIC</type>
    <collection>VX-10</collection>
  </access>
  <access priority="1" id="VX-24090" username="test">
```

```
    <permission>READ</permission>
    <type>METADATA</type>
    <group>mygroup</group>
  </access>
</AccessControlMergedDocument>
```

Example: querying about specific access

Checking if the user admin has full access to the metadata of item VX-250. Notice that the access provided by VX-24112 does not match, but it is less prioritized than the access of VX-3111 and thus the user has full access to the metadata.

```
GET /item/VX-250/merged-access?username=admin&permission=ALL&type=METADATA

<AccessControlMergedDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <query>
    <username>admin</username>
    <permission>ALL</permission>
    <type>METADATA</type>
    <item>VX-250</item>
  </query>
  <access priority="1" matches="true" id="VX-3111">
    <permission>ALL</permission>
    <type>GENERIC</type>
  </access>
  <access priority="2" matches="false" id="VX-24112">
    <permission>WRITE</permission>
    <type>GENERIC</type>
    <collection>VX-10</collection>
  </access>
  <access priority="3" matches="true" id="VX-4119">
    <permission>ALL</permission>
    <type>GENERIC</type>
    <collection>VX-23</collection>
  </access>
  <access priority="4" matches="true" id="VX-2221">
    <permission>ALL</permission>
    <type>GENERIC</type>
    <collection>VX-12</collection>
  </access>
  <access priority="5" matches="true" id="VX-2205">
    <permission>ALL</permission>
    <type>GENERIC</type>
    <collection>VX-10</collection>
  </access>
</AccessControlMergedDocument>
```

Retrieve a list of applied access control entries that affects groups

GET /item/ (*item-id*) **/merged-access/group**
Lists groups that have access to an item.

Even though a user belongs to a group that has access to an item, the user may not have access due to other access control entries that take precedence.

Groups without users will not appear, unless the group belongs to an inheritance hierarchy that has users.

Query Parameters

- **full** –
  - `true` - Return all access controls that apply for a group. Also include additional information about the access controls in the response.
  - `false` (default) - Return a single access entry with the permission that applies for each group and type.

  New in version 4.2.3.

Produces

- **application/xml, application/json** – An *AccessControlMergedGroupDocument*.

Role _accesscontrol_read

Example

```
GET /item/VX-1000/merged-access/group
```

```
<AccessControlMergedGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <access>
    <group>groupA</group>
    <permission>READ</permission>
    <type>GENERIC</type>
  </access>
  <access>
    <group>_transcoder</group>
    <permission>WRITE</permission>
    <type>GENERIC</type>
  </access>
  <access>
    <group>_special_all</group>
    <permission>WRITE</permission>
    <type>GENERIC</type>
  </access>
  <access>
    <group>groupD</group>
    <permission>READ</permission>
    <type>GENERIC</type>
  </access>
  <access>
    <group>groupC</group>
    <permission>READ</permission>
    <type>GENERIC</type>
  </access>
  <access>
    <group>groupB</group>
    <permission>READ</permission>
    <type>GENERIC</type>
  </access>
</AccessControlMergedGroupDocument>
```

16.2 Audit trails

The audit log records all requests made to the API, excluding the request data, for later use. It is typically used for troubleshooting, to be able to determine what happened when, and for examining actions taken by users or other services.

16.2.1 Examining the log

Retrieving log content

GET /log

Retrieves log entries according to the specified filtering criteria. The path can be seen as having an implicit wildcard in the end, unless it is disabled with the `wildcard` parameter. For example `/item/VX-123` will match `/item/VX-123/shape` but not `/item/VX-124`.

Query Parameters

- **path** – Optional string, matches path in log lines, default is `/`.
- **first** – Optional integer, number of first row to return, default is `0`.
- **rows** – Optional integer, number of rows to return, default is `100`. Cannot be greater than 1000.
- **starttime** – Optional ISO 8601 time, for lower limit of rows to return.
- **endtime** – Optional ISO 8601 time, for upper limit of rows to return.
- **wildcard** –
  - `false` - Do not treat do truncation at end of path.
  - `true` - Treat end of path to have a `*` wildcard.
- **username** – Optional string, only return rows that the specified user invoked. Default is all rows.
- **method** – Optional string, only return rows with the specified method, e.g. `GET`. Default is all rows.
- **performCount** –
  - `false` (default) - Do not return a total number of rows matching criteria.
  - `true` - Return a total number of rows matching criteria (except first and count).

Produces

- **application/xml, application/json** – *AuditLogDocument*

Role _administrator

Example

```
GET /log?path=/item/VX-10&method=GET&username=admin&performCount=true
```

```
<AuditLogDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <count>13</count>
  <entry timestamp="2010-11-26T15:46:25.328+01:00">
    <username>admin</username>
```

```
    <method>GET</method>
    <path>/item/VX-10/uri</path>
    <queryParameters>methodType=AUTO</queryParameters>
    <matrixParameters/>
  </entry>
  <entry timestamp="2010-11-26T15:46:20.053+01:00">
    <username>admin</username>
    <method>GET</method>
    <path>/item/VX-10/uri</path>
    <queryParameters/>
    <matrixParameters/>
  </entry>
  <entry timestamp="2010-11-26T15:28:03.674+01:00">
    <username>admin</username>
    <method>GET</method>
    <path>/item/VX-10</path>
    <queryParameters>content=shape</queryParameters>
    <matrixParameters/>
  </entry>
  <entry timestamp="2010-11-26T15:26:49.031+01:00">
    <username>admin</username>
    <method>GET</method>
    <path>/item/VX-10</path>
    <queryParameters>content=shape</queryParameters>
    <matrixParameters/>
  </entry>
  <entry timestamp="2010-11-26T15:16:53.508+01:00">
    <username>admin</username>
    <method>GET</method>
    <path>/item/VX-10</path>
    <queryParameters>content=shape</queryParameters>
    <matrixParameters/>
  </entry>
</AuditLogDocument>
```

Exporting log content

GET /log/export

Is very similar to the method above, but instead of delivering the entire document at once it is streamed. Therefore there is no restriction on the maximum number of rows that can be retrieved.

Query Parameters

- **path** – Optional string, matches path in log lines, default is `/`.
- **first** – Optional integer, number of first row to return, default is `0`.
- **rows** – Optional integer, number of rows to return, default is `100`.
- **starttime** – Optional ISO 8601 time, for lower limit of rows to return.
- **endtime** – Optional ISO 8601 time, for upper limit of rows to return.
- **wildcard** –
  - `false` - Do not treat do truncation at end of path.
  - `true` - Treat end of path to have a `*` wildcard.

- **username** – Optional string, only return rows that the specified user invoked. Default is all rows.
- **method** – Optional string, only return rows with the specified method, e.g. `GET`. Default is all rows.
- **performCount** –
  - `false` (default) - Do not return a total number of rows matching criteria.
  - `true` - Return a total number of rows matching criteria (except first and count).

Produces

- **application/xml** – *AuditLogDocument*

Role _administrator

16.3 Collections

A collection is an ordered logical set of items, libraries and other collections.

16.3.1 Managing collections

Retrieve a list of all collections

`GET /collection`
Retrieves a list of all known collections.

Produces

- **application/xml, application/json** – *CollectionListDocument*

Role _collection_read

Create a collection

`POST /collection`
Generates a new collection and returns the id associated with that collection.

Query Parameters

- **name** – Optional name of the collection. (**optional**)

Produces

- **application/xml, application/json** – *CollectionDocument*

Role _collection_write

Delete a collection

`DELETE /collection/`(*collection-id*)
Delete specified collection.

Note that the actual items and libraries that are contained within the collection are not modified.

Status Codes

- **200 OK** – The collection is deleted.
- **404 Not found** – Could not find the collection.

Role _collection_write

Rename a collection

PUT /collection/(*collection-id*)**/rename**
Renames the collection with the *Identifiers* `collection-id`.

Query Parameters

- **name** – Mandatory, new name of the collection.

Role _collection_write

16.3.2 Collection content

Retrieve the contents of a collection

GET /collection/(*collection-id*)
Return the ids of the objects contained within the collection, that has the id `collection-id`.

Status Codes

- **404 Not found** – Could not find the collection.

Produces

- **application/xml, application/json** – *CollectionDocument*

Role _collection_read

Retrieve the items of a collection

GET /collection/(*collection-id*)**/item**
Retrieves only the items of the collection. This method can be used to retrieve *item content*.

Query Parameters

- **first** – Integer. The index of the first element to retrieve, must be a non-zero positive integer. Default is `1`.
- **number** – Integer. The total number of elements to retrieve, must be on the interval [0, 100]. Default is `100`.

Status Codes

- **404 Not found** – Could not find the collection.

Produces

- **application/xml, application/json** – *ItemListDocument*

Role _collection_read

Perform item search within a collection

New in version 4.0.

GET /collection/ (*collection-id*) **/item**

PUT /collection/ (*collection-id*) **/item**

Performs a search among the items in the specified collection.

Content Parameters See `../item-content`

Query Parameters

- **result** –
  - `list` (default) - Return a list of items.
  - `library` - Create a library with the matching items.
- **q** – XML/JSON, *ItemSearchDocument*. Only with GET (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.3).
- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Matrix Parameters

- **library** – Restricts search to within library, *Identifiers*. Default is `*`, all items.
- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.
- **libraryId** – If set, the library identified by this id will be used instead of creating a new library.
- **autoRefresh** – See *Self-refreshing libraries*. Defaults to `false`.
- **updateMode** – See *Self-refreshing libraries*. Defaults to `MERGE`.
- **updateFrequency** – See *Self-refreshing libraries*. Defaults to no periodic updates.

Produces

- **application/xml, application/json** – *ItemListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Status Codes

- **400 Bad request** – Either the *ItemSearchDocument* or a parameter was invalid.

Role _collection_read

Semantics

Note that searching can also be performed by using the HTTP method PUT (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.6) using the same syntax, except for the parameter `q` is omitted and the *ItemSearchDocument* is sent in the body of the request.

Tip: There is a limit on how many items that can be returned for each call to this method. To get all items, iterate the calls, or even better in a batch scenario, use *Listing items in batch*.

Example

```
GET /collection/VX-76/item
Accept: application/xml

<ItemListDocument>
  <item id="VX-45"/>
  <item id="VX-46"/>
  <item id="VX-47"/>
  <item id="VX-62"/>
</ItemListDocument>
```

Add an item, library or collection to a collection

PUT /collection/(*collection-id*)**/**

id Adds an item, library or collection with the id `id`, to the collection with the id `collection-id`. If `id` is already present within the collection, this is a no-op.

Query Parameters

- **type** –
  - `collection` - The object identified by `id` is a collection.
  - `item` (default) - The object identified by `id` is an item.
  - `library` - The object identified by `id` is a library.
- **addItems** –
  - `true` - Library items will be added individually. Only has any effect when `type=library`.
  - `false` - Library will be added to collection, not specific items.

Status Codes

- **200 OK** – The collection, item or library was added, or already existed within the collection.
- **400 Bad request** – Cannot add a collection to itself, or the type was given an invalid value.
- **404 Not found** – Could not find the collection, item or library.

Role _collection_write

Remove an item, library or collection from a collection

DELETE /collection/(*collection-id*)**/**

id Attempts to remove specific content with the id, `id`, from a collection with the id `collection-id`.

Note that the object corresponding to the id is not altered.

Query Parameters

- **type** –
  - `collection` - The object identified by `id` is a collection.
  - `item` (default) - The object identified by `id` is an item.

- `library` - The object identified by `id` is a library.

Status Codes

- **200 OK** – The item/library is removed from the collection.
- **400 Bad request** – The type was given an invalid value.
- **404 Not found** – Could not find the collection or the item/library.

Role _collection_write

16.3.3 Collection metadata

Metadata can be set on collections, in manner very similar to *Metadata*.

Retrieve collection metadata

GET /collection/ (*collection-id*) **/metadata**
Retrieves the metadata from the specified collection.

Matrix Parameters

- **interval** – See *Get metadata*.
- **field** – See *Get metadata*.
- **language** – See *Get metadata*.
- **sampleRate** – See *Get metadata*.
- **track** – See *Get metadata*.
- **include** – See *Get metadata*.
- **conflict** – See *Get metadata*.

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _metadata_read

Update collection metadata

PUT /collection/ (*collection-id*) **/metadata**
Updates the metadata of the collection.

Query Parameters

- **revision** – See *Add a metadata change Set*.

Accepts

- **application/xml, application/json** – *MetadataDocument*

Produces

- **application/xml, application/json** – *MetadataDocument* with the metadata after the changes have been applied.

Role _metadata_write

16.3.4 Searching for collections

Searching collections behaves much like *Search*.

Search for collections

PUT /collection

Searches for collections that matches the query.

Query Parameters

- **first** – Integer. The index of the first collection. Default is `1`.
- **number** – Integer. The number of collections to retrieve. Default is `100`.

Accepts

- **application/xml, application/json** – *ItemSearchDocument*

Produces

- **application/xml, application/json** – *CollectionListDocument*

Role _collection_read

Retrieve search history

New in version 4.0.3.

GET /collection/history

Retrieves a list of searches made by a particular user, include "Collection search " and "Item and collection search". The results are ordered according to timestamp, with the latest searches being first. Duplicate queries will not be retrieved.

Query Parameters

- **start** – Optional. If set, only searches made after this date will be retrieved.
- **maxResults** – The maximum number of searches that will be retrieved. The value must be between 1 and 50, default is 10.
- **username** – The name of the user that has performed the searched. If not specified, the user performing the request will be selected.

Status Codes

- **400 Bad request** – The request was malformed.

Produces

- **application/xml, application/json** – *SearchHistoryListDocument*

Role _item_search

16.3.5 Ordering collections

Collections will return their elements in the same order for every request.

Reordering collection elements

POST /collection/ (*collection-id*) **/order**

Changes the order of the elements. Note that the reordering elements are parsed and applied in the sequence that they are supplied.

Accepts

- **application/xml, application/json** – *CollectionReorderDocument* containing the changes to the order.

Produces

- **application/xml, application/json** – *CollectionDocument* containing the elements in their new order.

Role _collection_write

Example

Starting with an unordered collection of items, we will sort it according to item id. At the start it contains items [VX-7, VX-8, VX-5, VX-6].

```
GET /collection/VX-1
```

```
<CollectionDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <loc>http://localhost:8080/API/collection/VX-1/VX-1</loc>
  <id>VX-1</id>
  <content>
    <id>VX-7</id>
    <uri>http://localhost:8080/API/item/VX-7</uri>
    <type>item</type>
  </content>
  <content>
    <id>VX-8</id>
    <uri>http://localhost:8080/API/item/VX-8</uri>
    <type>item</type>
  </content>
  <content>
    <id>VX-5</id>
    <uri>http://localhost:8080/API/item/VX-5</uri>
    <type>item</type>
  </content>
  <content>
    <id>VX-6</id>
    <uri>http://localhost:8080/API/item/VX-6</uri>
    <type>item</type>
  </content>
</CollectionDocument>
```

```
POST /collection/VX-1/order
Content-Type: application/xml
```

```
<CollectionReorderDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <!-- Find the current first element and put VX-5 first -->
    <item id="VX-5" before="VX-7"/>

    <!-- Add the other elements after VX-5 in sequence -->
    <item id="VX-6" after="VX-5"/>
```

```
    <item id="VX-7" after="VX-6"/>
    <item id="VX-8" after="VX-7"/>
</CollectionReorderDocument>

<CollectionDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-1</id>
  <content>
    <id>VX-5</id>
    <uri>http://localhost:8080/API/item/VX-5</uri>
    <type>item</type>
  </content>
  <content>
    <id>VX-6</id>
    <uri>http://localhost:8080/API/item/VX-6</uri>
    <type>item</type>
  </content>
  <content>
    <id>VX-7</id>
    <uri>http://localhost:8080/API/item/VX-7</uri>
    <type>item</type>
  </content>
  <content>
    <id>VX-8</id>
    <uri>http://localhost:8080/API/item/VX-8</uri>
    <type>item</type>
  </content>
</CollectionDocument>
```

16.3.6 Folder mapped collections

It is possible to map a Vidispine collection to a folder on the file system. This means that any files of items part of the collection will be stored in a sub-folder with the same name as the collection. For a collection marked as mapped to a folder, some additional rules are enforced when it comes to collection relationships:

- A folder mapped collection can have at most one folder mapped parent collection.
- An item can have at most one folder mapped parent collection.

That is, the same rule that applies to files on a traditional file system.

Note: Adding an item to a folder mapped collection will not move the item files to the corresponding folder immediately as the file movement is done asynchronously in the background.

Mark a collection as folder mapped

PUT /collection/ (*collection-id*) **/map-to-folder**

Marks collection `collection-id` as mapped to folder. Files in child items will be moved to the corresponding folder in the storages.

Role _collection_write

Un-mark a collection as folder mapped

DELETE /collection/ (*collection-id*) **/map-to-folder**

Marks collection `collection-id` as *not* mapped to folder. Files in child items will be moved to the root

directory in the storages.

Role _collection_write

Report that the folder name has changed on disk

PUT /collection/ (*collection-id*) **/folder-name**
If the folder name has been changed by a user or an external program, it can be reported to Vidispine with this command. The affected file entities in the database will then be updated with the new path, and the collection name will be changed.

Query Parameters

- **name** – The new name of the folder (required).

Role _collection_write

16.4 Configuration

The configuration resource contains the system wide configuration that would typically be tuned by an administrator or set once when installing Vidispine and your application on a new system.

See also:

See *Configuration properties* for more information about the available configuration properties.

16.4.1 Indexing settings

Get the indexing configuration

GET /configuration/indexing
Returns the current indexing configuration.

Produces

- **application/xml, application/json** – *IndexingConfigurationDocument*

Role _administrator

Update the indexing configuration

PUT /configuration/indexing
Updates the indexing configuration.

Status Codes

- **200 OK** – The configuration was updated successfully.

Accepts

- **application/xml** – *IndexingConfigurationDocument*

Role _administrator

16.4.2 Metrics settings

See *Monitoring* for examples.

Get the metrics configuration

GET /configuration/metrics
Returns the current metrics configuration.

Produces

- **application/xml, application/json** – *MetricsConfigurationDocument*

Role _administrator

Update the metrics configuration

PUT /configuration/metrics
Updates the metrics configuration.

Status Codes

- **200 OK** – The configuration was updated successfully.

Accepts

- **application/xml** – *MetricsConfigurationDocument*

Role _administrator

16.4.3 Job pool configuration

Get the job pool configuration

GET /configuration/job-pool
Returns the current job pool configuration.

New in version 4.2.2.

Produces

- **application/xml, application/json** – *JobPoolListDocument*

Role _administrator

Example

```
GET /configuration/job-pool
```

```
<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <maxConcurrent>3</maxConcurrent>
</JobPoolListDocument>
```

Update the job pool configuration

PUT /configuration/job-pool
Updates the job pool configuration.

New in version 4.2.2.

Accepts

- **application/xml, application/json** – *JobPoolListDocument*

Role _administrator

Example

```
PUT /configuration/job-pool
Content-Type: application/xml

<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <maxConcurrent>5</maxConcurrent>
  <pool>
    <priorityThreshold>HIGH</priorityThreshold>
    <size>2</size>
  </pool>
  <pool>
    <priorityThreshold>MEDIUM</priorityThreshold>
    <size>3</size>
  </pool>
</JobPoolListDocument>
```

Delete all job pools

DELETE /configuration/job-pool
Deletes all job pools.

Note that the max concurrent jobs setting will *not* be affected.

New in version 4.2.2.

Role _administrator

Example

```
GET /configuration/job-pool

<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <maxConcurrent>5</maxConcurrent>
  <pool>
    <priorityThreshold>HIGH</priorityThreshold>
    <size>2</size>
  </pool>
  <pool>
    <priorityThreshold>MEDIUM</priorityThreshold>
    <size>3</size>
  </pool>
</JobPoolListDocument>
```

```
DELETE /configuration/job-pool

GET /configuration/job-pool

<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <maxConcurrent>5</maxConcurrent>
</JobPoolListDocument>
```

Delete a specific job pool

DELETE /configuration/job-pool/ (*priority*)
Deletes the job pool with the given priority threshold.

New in version 4.2.2.

Role _administrator

Example

```
GET /configuration/job-pool

<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <maxConcurrent>5</maxConcurrent>
  <pool>
    <priorityThreshold>HIGH</priorityThreshold>
    <size>2</size>
  </pool>
  <pool>
    <priorityThreshold>MEDIUM</priorityThreshold>
    <size>3</size>
  </pool>
</JobPoolListDocument>

DELETE /configuration/job-pool/MEDIUM

GET /configuration/job-pool

<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <maxConcurrent>5</maxConcurrent>
  <pool>
    <priorityThreshold>HIGH</priorityThreshold>
    <size>2</size>
  </pool>
</JobPoolListDocument>
```

16.4.4 FTP pool configuration

Get the FTP pool configuration

GET /configuration/ftp-pool
Returns the current FTP connection pool configuration.

New in version 4.2.4.

Produces

- **application/xml, application/json** – *FtpPoolConfigurationDocument*

Role _administrator

Example

```
GET /configuration/ftp-pool
```

```
<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool/>
</FtpPoolConfigurationDocument>
```

Update the job pool configuration

PUT /configuration/ftp-pool

Updates the FTP connection pool configuration.

New in version 4.2.4.

Accepts

- **application/xml, application/json** – *FtpPoolConfigurationDocument*

Role _administrator

Example

```
PUT /configuration/ftp-pool
Content-Type: application/xml

<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool>
    <minSize>0</minSize>
    <maxSize>-1</maxSize>
    <evictionInterval>30000</evictionInterval>
    <minIdleTime>60000</minIdleTime>
  </pool>
</FtpPoolConfigurationDocument>
```

Delete the FTP pool

DELETE /configuration/ftp-pool

Deletes the FTP connection pool.

New in version 4.2.4.

Role _administrator

Example

```
GET /configuration/ftp-pool
```

```
<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool/>
</FtpPoolConfigurationDocument>

DELETE /configuration/ftp-pool

GET /configuration/ftp-pool

<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine"/>
```

16.4.5 Configuration properties

Get list of configuration properties

GET /configuration/properties

Returns a document containing all configuration properties set in the system.

Produces

- **application/xml, application/json** – *ConfigurationPropertyListDocument*

Role _administrator

Example

```
GET /configuration/properties

<ConfigurationPropertyListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <property lastChange="2014-06-03T15:18:49.608+02:00">
    <key>apiuri</key>
    <value>http://vs.example.com:8080/API</value>
  </property>
</ConfigurationPropertyListDocument>
```

Get a single configuration property

GET /configuration/properties/ (*key*)

Returns a document or string containing all current setting for a configuration property.

Status Codes

- **200 OK** – The value is returned
- **404 Not found** – The configuration property is not set

Produces

- **application/xml, application/json** – *ConfigurationPropertyDocument*
- **text/plain** – String value

Role _administrator

Example

```
GET /configuration/properties/apiuri
Accept: application/xml

<ConfigurationPropertyDocument xmlns="http://xml.vidispine.com/schema/vidispine" lastChange="2014-06-
  <key>apiuri</key>
  <value>http://vs.example.com:8080/API</value>
</ConfigurationPropertyDocument>

GET /configuration/properties/apiuri
Accept: text/plain

http://vs.example.com:8080/API
```

Create/modify configuration property

PUT /configuration/properties
Creates or updates a configuration property.

Status Codes

- **200 OK** – The configuration property was created/modified successfully.

Accepts

- **application/xml** – *ConfigurationPropertyDocument*

Role _administrator

Example

```
PUT /configuration/properties

<ConfigurationPropertyDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <key>apiuri</key>
  <value>http://127.0.0.1:18080/API/</value>
</ConfigurationPropertyDocument>
```

Create/modify configuration property

PUT /configuration/properties/ (*key*)
Creates or updates a configuration property.

Status Codes

- **200 OK** – The configuration property was created/modified successfully.

Accepts

- **text/plain** – String value

Role _administrator

Example

```
PUT /configuration/properties/apiuri

http://127.0.0.1:18080/API/
```

Remove a configuration property

DELETE /configuration/properties/ (*property-name*)
Removes a configuration property.

Status Codes

- **200 OK** – The configuration property was successfully deleted

Role _administrator

Example

```
DELETE /configuration/properties/example_property

200 OK
```

16.5 Export locations

New in version 4.0.

It is possible to pre-define named export locations. When starting an export job, the location name can be passed as a parameter, the files will then be exported to the URI associated with the export location.

16.5.1 Managing export locations

Listing available export locations

GET /export-location
List all defined export locations.

Produces

- **application/xml, application/json** – *ExportLocationListDocument*

Role _export

Creating/updating an export location

PUT /export-location/ (*location-name*)
Create a new export location, or if there already is one with that name, update it.

Accepts

- **application/xml, application/json** – *ExportLocationDocument*

Produces

- **application/xml, application/json** – *ExportLocationDocument*

Role _export

Example

Creating a new export location:

```
PUT /export-location/External_FTP
Content-Type: application/xml

<ExportLocationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>ftp://user:password@10.2.23.25/export/</uri>
</ExportLocationDocument>
```

Get information about an export location

GET /export-location/ (*location-name*)
Return information about the export location with the specified name.

Produces

- **application/xml, application/json** – *ExportLocationListDocument*

Role _export

Deleting an export location

DELETE /export-location/ (*location-name*)
Delete the export location with the specified name.

Role _export

16.5.2 Export location script

Get the export location script

GET /export-location/ (*location-name*) **/script**
Retrieves the script on an export location.

Status Codes

- **404 Not found** – If the location has no script.

Produces text/plain

Role _export

Update the export location script

PUT /export-location/ (*location-name*) **/script**
Updates the script of an existing export location.

Accepts text/plain

Role _export

16.6 External identifiers

16.6.1 Managing external id namespaces

Retrieve all known namespaces

GET /external-id
Retrieves all known external id namespaces.

Produces

- **application/xml, application/json** – *ExternalIdentifierNamespaceListDocument*

Role _administrator

Example

```
GET /external-id

<ExternalIdentifierNamespaceListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <namespace>
    <name>uuid</name>
    <pattern>[A-Fa-f0-9]{8}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{12}</patter
  </namespace>
</ExternalIdentifierNamespaceListDocument>
```

Retrieve a specific namespace

GET /external-id/ (*namespace-id*)
Retrieves the namespace with the specified name.

Produces

- **application/xml, application/json** – *ExternalIdentifierNamespaceDocument*

Role _administrator

Example

```
GET /external-id/uuid

<ExternalIdentifierNamespaceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <name>uuid</name>
  <pattern>[A-Fa-f0-9]{8}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{12}</pattern>
</ExternalIdentifierNamespaceDocument>
```

Create or modify a namespace

PUT /external-id/ (*namespace-id*)
Creates or modifies a namespace with the specified name.

Accepts

- **application/xml , application/json** – *ExternalIdentifierNamespaceDocument*

Role _administrator

Example

```
PUT /external-id/uuid
Content-Type: application/xml

<ExternalIdentifierNamespaceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <pattern>[A-Fa-f0-9]{8}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{4}\-[A-Fa-f0-9]{12}</patter
</ExternalIdentifierNamespaceDocument>

200 OK
```

Delete a namespace and all external ids in that namespace

DELETE /external-id/ (*namespace-id*)
Deletes the specified namespace together with all external ids that exist in that namespace.

Role _administrator

Example

```
DELETE /external-id/uuid

200 OK
```

16.6.2 Managing external ids

The current supported resources can be seen in the table below. These are referred to as `{external-id-resource}` in the definitions below.

Type	Path
Item	`/item/{item-id}/external-ld`
Job	`/storage/{job-id}/external-id`
Notification	`.../notification/{notification-id}/external-id`
Storage	`/storage/{storage-id}/external-id`
Metadata-field	`/metadata-field/{field-name}/external-id`
Field-group	`/metadata-field/field-group/{field-group-name}/external-id`

Retrieve all external ids for an entity

GET {external-id-resource}
Retrieves all external ids that are assigned to a particular entity.

Produces

- **application/xml, application/json** – *ExternalIdentifierListDocument*

Role _external_id_read

Example

```
GET /storage/VX-1/external-id

<ExternalIdentifierListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>
    <entityId>VX-1</entityId>
    <entityType>Storage</entityType>
    <namespace>uuid</namespace>
    <externalId>38eebf93-2ab7-463b-ba3a-b6217bb5bca9</externalId>
  </id>
</ExternalIdentifierListDocument>

GET /storage/38eebf93-2ab7-463b-ba3a-b6217bb5bca9/external-id

<ExternalIdentifierListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>
    <entityId>VX-1</entityId>
    <entityType>Storage</entityType>
    <namespace>uuid</namespace>
    <externalId>38eebf93-2ab7-463b-ba3a-b6217bb5bca9</externalId>
  </id>
</ExternalIdentifierListDocument>
```

Create a new external id

PUT {external-id-resource}/ (*external-id*)
Creates a new external id for the specified entity.

Role _external_id_write

Example

```
PUT /storage/VX-1/external-id/38eebf93-2ab7-463b-ba3a-b6217bb5bca9

200 OK

PUT /storage/VX-1/external-id/38eebf93-2ab7-463b-ba3a-b6217bb5bca9

400 An invalid parameter was entered
Context: external-id
Reason: That external id is already in use by VX-1.
```

Clear all external ids for an entity

DELETE {external-id-resource}
Clears all external identifiers that are registered with an entity.

Role _external_id_write

Example

```
DELETE /storage/VX-1/external-id

200 OK

GET /storage/38eebf93-2ab7-463b-ba3a-b6217bb5bca9/external-id

404 A resource could not be found
Type: external-id
ID: uuid_38eebf93-2ab7-463b-ba3a-b6217bb5bca9
```

16.7 Groups and roles

16.7.1 Managing groups

List groups/roles

GET /group
Returns list of all groups.

Query Parameters

- **first** – Start returning groups from specified number. Default is `1`, the beginning of the list.
- **number** – Return at most specified number of groups. Default is no limit.

Produces

- **application/xml, application/json** – *GroupListDocument*
- **text/plain** – CRLF-delimited list of group names

Role _group_read

Get group/role

GET /group/ (*group-name*)
Returns information about the specified group.

Produces

- **application/xml, application/json** – *GroupDocument*

Role _group_read

Get role status

GET /group/ (*group-name*) **/role**
Returns the role status of the specified group.

Produces

- **text/plain** – 1 if group is a role, 0 if group is a regular group

Role _group_read

Create a new group

PUT /group/ (*groupname*)
Creates a new group with the specified name.

Status Codes

- **200 OK** – Group created.
- **409 Conflict** – A group with that name already exists.

Role _group_write

Create and setup a new group

PUT /group/ (*groupname*)
Creates a new group with the specified name. Also any specified parent and child associations, users, metadata and description will be added.

Status Codes

- **200 OK** – Group created.
- **409 Conflict** – A group with that name already exists.

Accepts

- **application/xml, application/json** – *GroupDocument*

Role _group_write

Delete a group

DELETE /group/ (*groupname*)
Deletes the group with the specified name.

Role _group_write

Search groups

PUT /group
Simple search of fields `groupname`, `description` and metadata.

Accepts

- **application/xml, application/json** – *GroupListDocument*

Produces

- **application/xml, application/json** – *GroupSearchDocument*

Example

```
PUT /group
Content-Type: application/xml

<GroupSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <field>
```

```
        <name>groupname</name>
        <value>vidi</value>
    </field>
    <field>
        <name>key</name>
        <value>value</value>
    </field>
</GroupSearchDocument>
```

Note that keywords `groupname` and `description` are reserved to do search on `groupname` and `description` fields

The boolean operators AND and OR are supported:

```
<GroupSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <field>
        <name>groupname</name>
        <value>vidi</value>
    </field>
    <field>
        <name>description</name>
        <value>vidispine</value>
    </field>
    <operator operation="OR">
        <field>
          <name>key1</name>
          <value>value1</value>
        </field>
        <field>
          <name>key2</name>
          <value>value2</value>
        </field>
    </operator>
</GroupSearchDocument>
```

16.7.2 Group information

Get group description

GET /group/ (*group-name*) **/description**
Returns the descriptive text about the specified group.

Produces

- **text/plain** – Group description

Role _group_read

Change the description of a group

PUT /group/ (*groupname*) **/description**
Changes the description of a group.

Accepts

- **text/plain** – The new description.

Role _group_write

16.7.3 Group-to-group relations

Get parent groups to a group

GET /group/(*group-name*)**/parents**
Returns groups that the specified group belongs to.

Produces

- **application/xml, application/json** – *GroupListDocument*
- **text/plain** – CRLF-delimeted list of *Tabbed tuples* of group name, group description

Role _group_read

Get child groups to a group

GET /group/(*group-name*)**/children**
Returns groups that belongs to the specified group.

Produces

- **application/xml, application/json** – *GroupListDocument*
- **text/plain** – CRLF-delimeted list of *Tabbed tuples* of group name, group description

Role _group_read

Add a group to another group

PUT /group/(*groupname*)**/group/**
child-groupname Creates parent-child relation between the two specified groups.

Role _group_write

Remove a group from another group

DELETE /group/(*groupname*)**/group/**
child-groupname Removes the parent-child relation between the two specified groups.

Role _group_write

16.7.4 Group-to-user relations

Users belonging to group

GET /group/(*group-name*)**/users**
Returns all users belonging to the group/role, directly or indirectly.

Produces

- **application/xml, application/json** – *UserListDocument*
- **text/plain** – CRLF-delimeted list of *Tabbed tuples* of user name, user real name

Role _group_read

Add a user to a group

PUT /group/(*groupname*)**/user/**
username Adds the specified user to the specified group.

Role _group_write

Remove a user from a group

DELETE /group/(*groupname*)**/user/**
username Removes the specified user from the specified group.

Role _group_write

16.8 Imports

16.8.1 Importing an item

An item can be imported in two ways, either through supplying a URI or sending the data in the request body.

There is also a third automatic way, using *Automatic import*.

Import using a URI

POST /import
Starts a job that imports the file, located at the given URI, and creates an item. For more information about jobs, see *Jobs*. Note that thumbnails and poster frames are only generated if a transcode takes place.

Query Parameters

- **uri** – A URI to the file that will be imported. See also *URI's, URL's, and Special Characters*.
- **URL** – A URL to the file that will be imported. (Deprecated since x.)
- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **thumbnails** –
  - `true` (default) - Generate thumbnails as per defined by shape tag
  - `false` - Disable thumbnail generation
- **thumbnailService** – An optional identifier to which thumbnail resource that should be used.
- **createPosters** – An optional list of *time codes* to use for creating posters.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.

  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **storageId** – Optional identifier of storage where essence file is to be stored.
- **filename** – The filename to be stored as original filename. Optional.
- **growing** –
  - `true` - Specifies that the input file is still written to, so enables growing file support.
  - `false` (default) - No growing file handling of import file.
- **xmpfile** – An optional URI to a sidecar XMP metadata file.
- **sidecar** – Optional URIs or file ids of any sidecar files to import to the item. (New in 4.0.)
- **no-transcode** –
  - `true` - Will disable transcoding even if the `tags` parameter is set. Rather, the specified tag will be used to determine cropping, scaling etc. of thumbnails.
  - `false` (default) - Normal transcode.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Accepts

- **application/xml, application/json** – *MetadataDocument*, initial metadata that is given to the imported item

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Example

```
POST /import?uri=http://example.com/video.avi HTTP/1.1
Accept: application/xml
Content-type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
      <timespan end="+INF" start="-INF">
         <field>
            <name>title</name>
            <value>This is an imported item!</value>
         </field>
      </timespan>
</MetadataDocument>

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <jobId>VX-80</jobId>
    <status>READY</status>
    <type>IMPORT</type>
</JobDocument>
```

Import using the request body

POST /import/raw

Starts a job that reads the raw data from the request body, generates a file, and imports the file.

Query Parameters

- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **thumbnails** –
  - `true` (default) - Generate thumbnails as per defined by shape tag
  - `false` - Disable thumbnail generation
- **thumbnailService** – An optional identifier to which thumbnail resource that should be used.
- **createPosters** – An optional list of *time codes* to use for creating posters.
- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.
- **storageId** – Optional identifier of storage where essence file is to be stored.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **filename** – The filename to be stored as original filename. Optional.

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Request Headers

- **index** – Offset (in bytes) of the full file for where the first byte of this transfer is located.
- **size** – The total size of the full file.

Accepts

- **application/octet-stream** – The raw data.

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job, or no content if the transfer is not finished.

Role _import

Semantics

There are two modes of operation for this type of import. The most simple is to transfer the entire file and then the header parameters can be ignored. The other is to transfer the file over multiple requests, then the header parameters are required. If the latter mode is used, then the job will not start until the entire file is transferred.

Note that thumbnails and poster frames are only generated if a transcode takes place.

Tip: *Managing transfers*

Transfers can be managed, see *Transfers*.

Example: transferring the entire file

```
POST /import/raw HTTP/1.1
Content-Type: application/octet-stream

<the entire file data>
```

Example: transferring a file using multiple requests

Assume a file that is 1000 bytes. This file can be sent using three requests, where one request sends data [800, 1000], another sends data [0, 300] and the last request sends data [300, 800].

```
POST /import/raw?transferId=mytransfer HTTP/1.1
Content-Type: application/octet-stream
size: 1000
index: 800

<200 bytes of file data, starting at byte 800>

POST /import/raw?transferId=mytransfer HTTP/1.1
Content-Type: application/octet-stream
size: 1000
index: 0

<300 bytes of file data, starting at byte 0>

POST /import/raw?transferId=mytransfer HTTP/1.1
Content-Type: application/octet-stream
size: 1000
index: 300

<500 bytes of file data, starting at byte 300>
```

The last request that finishes will start the job and receive the corresponding job document.

Import using a passkey

POST /import/raw-passkey

Create a job and generates a passkey that can later be used to import an item without being authenticated.

Query Parameters

- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **thumbnails** –
  - `true` (default) - Generate thumbnails as per defined by shape tag
  - `false` - Disable thumbnail generation
- **thumbnailService** – An optional identifier to which thumbnail resource that should be used.
- **createPosters** – An optional list of *time codes* to use for creating posters.
- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **filename** – The filename to be stored as original filename. Optional.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Accepts

- **application/xml, application/json** – *MetadataDocument*, initial metadata that is given to the imported item

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Example

```
POST /import/raw-passkey?transferId=mytransfer HTTP/1.1
Accept: application/xml
Content-type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
      <timespan end="+INF" start="-INF">
         <field>
            <name>title</name>
            <value>This is an imported item!</value>
         </field>
      </timespan>
</MetadataDocument>

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <jobId>VX-102</jobId>
    <status>WAITING</status>
    <type>RAW_IMPORT</type>
    <data>
        <key>passkey</key>
        <value>91df2b2fe74957cc7331d59a59a88cdc14df460dbb4d62c20287399b30092134</value>
    </data>
</JobDocument>
```

Importing without authentication

Note: Note that this request uses `http://server:port/APInoauth/...` instead of the usual `http://server:port/API/...`

POST /import/raw

Imports the item and starts the job.

Query Parameters

- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **filename** – The filename to be stored as original filename. Optional.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)

- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*
- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **thumbnails** –
  - `true` (default) - Generate thumbnails as per defined by shape tag
  - `false` - Disable thumbnail generation
- **thumbnailService** – An optional identifier to which thumbnail resource that should be used.
- **createPosters** – An optional list of *time codes* to use for creating posters.
- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.
- **storageId** – Optional identifier of storage where essence file is to be stored.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **filename** – The filename to be stored as original filename. Optional.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Accepts

- **application/xml, application/json** – *MetadataDocument*, initial metadata that is given to the imported item

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Example

```
POST /import/raw?transferId=mytransfer&passkey=91df2b2fe74957cc7331d59a59a88cdc14df460d&b4d62c202873
Accept: application/xml
Content-type: application/octet-stream

<file data>

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <jobId>VX-102</jobId>
    <user>admin</user>
    <started>2010-08-11T09:57:29.575+02:00</started>
    <status>READY</status>
    <type>RAW_IMPORT</type>
    <priority>MEDIUM</priority>
</JobDocument>
```

16.8.2 Placeholder imports

A placeholder import is an import where the item and a shape are created before any file is transferred. Once all the specified files have been transferred, an import job will start.

Create a placeholder item

POST /import/placeholder

Creates an empty item and a shape with components matching the given parameters.

Query Parameters

- **container** – Integer, the number of files that contain container components.
- **audio** – Integer, the number of files that contain audio components.
- **video** – Integer, the number of files that contain video components.
- **type** – Optional string.
  - `image-sequence`- Image sequence.
  - `dpx` - DPX sequence.
- **frameDuration** – Optional *Time durations* for each image in the sequence (optional).
- **no-transcode** –
  - `true` - Will disable transcoding even if the `tags` parameter is set. Rather, the specified tag will be used to determine cropping, scaling etc. of thumbnails.
  - `false` (default) - Normal transcode.

Accepts

- **application/xml, application/json** – *MetadataDocument*, initial metadata that is given to the imported item

Produces

- **text/plain** – The id of the item
- **application/xml, application/json** – *ItemDocument*

Role _import

Import to a placeholder item

POST /import/placeholder/ (*item-id*) **/[container,audio,video]**

Imports the file and extracts component data based on what type is specified (container, audio, video). No transcoding will take place until all files have been imported.

Query Parameters

- **uri** – A URI to the file that will be imported. See also *URI's, URL's, and Special Characters*. Must be specified unless `fileId` is specified.
- **fileId** – The id of the file that contains the essence. Must be specified unless `uri` is specified.
- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **growing** –
  - `true` - Specifies that the input file is still written to, so enables growing file support.
  - `false` (default) - No growing file handling of import file.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*
- **index** – The component index (track) of new component.

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Import to a placeholder item using the request body

POST /import/placeholder/(*item-id*)**/[container,audio,video]/raw**

Imports the file and extracts component data based on what type is specified (container, audio, video). No transcoding will take place until all files have been imported.

Query Parameters

- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.
- **storageId** – Optional identifier of storage where essence file is to be stored.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.
- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **filename** – The filename to be stored as original filename. Optional.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Request Headers

- **index** – Offset (in bytes) of the full file for where the first byte of this transfer is located.
- **size** – The total size of the full file.

Accepts

- **application/octet-stream** – The raw data.

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job, or no content if the transfer is not finished.

Role _import

Example

Creating a placeholder item that consists of one file.

```
POST /import/placeholder?container=1
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan end="+INF" start="-INF">
      <field>
      <name>title</name>
         <value>My placeholder import!</value>
      </field>
   </timespan>
</MetadataDocument>

VX-1134

POST /import/placeholder/VX-1134/container?tag=lowres&uri=http://example.com/video.avi
Content-Type: application/xml

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <jobId>VX-1299</jobId>
   <user>admin</user>
   <started>2010-05-07T16:12:10.023+02:00</started>
   <status>READY</status>
   <type>PLACEHOLDER_IMPORT</type>
   <priority>MEDIUM</priority>
</JobDocument>
```

Import to a placeholder item in bulk

POST /import/placeholder/ (*item-id*)

Imports the files and extracts component data based on what type is specified (container, audio, video). No transcoding will take place until all files have been imported.

Query Parameters

- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **overrideFastStart** –
  - `true` (default) - Use transcoder's estimate of the duration for allocating header space in MOV files and similar files.
  - `false` - Do not use the transcoder's estimate of the duration.
- **requireFastStart** –
  - `true` (default) - Try to put the index tables (header) in front of the file.
  - `false` - Put header at end of file.

- **fastStartLength** – Optional estimated duration of the clip in seconds.
- **storageId** – Optional identifier of storage where essence file is to be stored.
- **growing** –
  - `true` - Specifies that the input file is still written to, so enables growing file support.
  - `false` (default) - No growing file handling of import file.
- **settings** – Pre-configured import settings. See *Import settings*
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Accepts

- **application/xml, application/json** – A *PlaceholderImportRequestDocument* describing the files to import.

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Adopt stand-alone files

POST /import/placeholder/ (*item-id*) **/container/adopt/**
file-id Adopt the file as a container component in a placeholder item.

Role _import

16.8.3 Importing sidecar files

Import a sidecar file

POST /import/sidecar/ (*item-id*)
Starts a job that imports the sidecar file, located at the given URL, to the specified item.

Query Parameters

- **sidecar** – Either the file id of the sidecar file or a URL for locating it.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

POST /import/sidecar/ (*item-id*) **/raw**

Starts a job that imports the sidecar file as HTTP request body. The sidecar file will be saved in one of the Vidispine storages.

Query Parameters

- **storageId** – The id of the storage that the sidecar file will be saved.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Role _import

16.9 Import settings

16.9.1 Managing import settings

Create a new settings profile

POST /import/settings

Creates a new settings profile with the given settings.

Accepts

- **application/xml, application/json** – An *ImportSettingsDocument* containing the settings profile.

Produces

- **application/xml, application/json** – An *ImportSettingsDocument* containing the the settings profile together with its id.

Role _import

Example

```
POST /import/settings
Content-Type: application/xml

<ImportSettingsDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <access>
      <permission>READ</permission>
      <user>myuser</user>
   </access>
</ImportSettingsDocument>
```

```
<ImportSettingsDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <id>VX-4</id>
   <access>
      <permission>READ</permission>
      <user>myuser</user>
   </access>
</ImportSettingsDocument>
```

List the ids of all profiles

GET /import/settings
Retrieves a list of all profiles.

Produces

- **application/xml, application/json** – A *URIListDocument* containing the ids of all profiles.

Role _import

Example

```
GET /import/settings
```

```
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <uri>VX-1</uri>
   <uri>VX-2</uri>
   <uri>VX-3</uri>
   <uri>VX-4</uri>
</URIListDocument>
```

Retrieve a specific settings profile

GET /import/settings/(*settings-id*)
Retrieves the settings specified by a certain profile.

Produces

- **application/xml, application/json** – An *ImportSettingsDocument* containing the settings of the profile.

Role _import

Example

```
GET /import/settings/VX-4
```

```
<ImportSettingsDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <id>VX-4</id>
   <access>
      <permission>READ</permission>
      <user>myuser</user>
   </access>
</ImportSettingsDocument>
```

Change the settings of a profile

PUT /import/settings/ (*settings-id*)
Changes the settings of the specified profile.

Accepts

- **application/xml, application/json** – An *ImportSettingsDocument* with the new settings.

Role _import

Example

```
PUT /import/settings/VX-4
Content-Type: application/xml

<ImportSettingsDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <access>
      <permission>WRITE</permission>
      <user>myuser</user>
   </access>
</ImportSettingsDocument>

200 OK
```

Delete a profile

DELETE /import/settings/ (*settings-id*)
Deletes the profile with specified id.

Role _import

Example

```
DELETE /import/settings/VX-4

200 OK
```

16.10 Items

16.10.1 Exports

An item export is the process of copying a file from storage to a location accessible by the system.

Create export jobs

Start an export job for a single item

POST /item/ (*item-id*) **/export**
Creates a new export job that will copy a file to a remote location.

Query Parameters

- **uri** – A URI to the destination of the file.
- **locationName** – (New in 4.0.) The name of an Export Location (see *Export locations*)
- **tag** – Finds a shape with the specified tag and uses that for export. If not specified, the system will attempt to use the original shape.
- **metadata** –
  - `true` - Metadata will also be exported to side-car XML file.
  - `false` (default) - No metadata is exported.
- **projection** – Defines the projection to use when exporting the metadata (optional).
- **start** – Defines a start *Time codes* for the media (optional).
- **end** – Defines an end *Time codes* for the media (optional).
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **useOriginalFilename** – If set to true, the file(s) will be exported with their original filename if available.
- **allowMissing** –
  - `true` (default) - Job will be started and the missing files will be ignored.
  - `false` - Job won't be started if there are missing files.

Produces-xml-json *JobDocument*

Role _export

Semantics Creates a new export job that will copy a file to a remote location. A shape tag can be specified to decide which shape that will be exported. If the URI ends with a "/" the URI is assumed to describe a folder and the file will retain its existing filename. Otherwise it is assumed that the URI describes a file and that filename will be used.

Note: *FTP active mode*

New in version 4.1.2.

For FTP exports, active mode can be forced by adding `?passive=false` to the FTP URL. To set the client side ports used in active mode, set the configuration property `ftpActiveModePortRange`, the value should be a range, e.g. `42100-42200`. To set the client IP used in active mode, set the configuration property `ftpActiveModeIp`.

Note: *XMP rewrite*

New in version 4.1.4.

By using the `jobmetadata` query parameter with `rewriteXMP=false` (remember to URL encode the =), any XMP metadata in the source file will *not* be updated with the XMP metadata of the item.

Example Create a new export job that transfers the file of a shape with the tag `flv`.

```
POST /item/VX-250/export?tag=flv&uri=file:/home/user/video/myvideo.flv

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <jobId>VX-1293</jobId>
   <user>admin</user>
   <started>2010-05-07T14:05:51.826+02:00</started>
   <status>READY</status>
   <type>EXPORT</type>
   <priority>MEDIUM</priority>
</JobDocument>
```

Start an export job for a single shape

New in version 4.1.2.

POST /item/ (*item-id*) **/shape/**
*shape-id***/export** Create export job for shape.

Query Parameters

- **uri** – A URI to the destination of the file.
- **locationName** – (New in 4.0.) The name of an Export Location (see *Export locations*)
- **tag** – Finds a shape with the specified tag and uses that for export. If not specified, the system will attempt to use the original shape.
- **metadata** –
  - `true` - Metadata will also be exported to side-car XML file.
  - `false` (default) - No metadata is exported.
- **projection** – Defines the projection to use when exporting the metadata (optional).
- **start** – Defines a start *Time codes* for the media (optional).
- **end** – Defines an end *Time codes* for the media (optional).
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **useOriginalFilename** – If set to true, the file(s) will be exported with their original filename if available.
- **allowMissing** –
  - `true` (default) - Job will be started and the missing files will be ignored.
  - `false` - Job won't be started if there are missing files.

Produces-xml-json *JobDocument*

Role _export

Semantics Creates a new export job that will copy a file from the specified shape to a remote location. If the URI ends with a "/" the URI is assumed to describe a folder and the file will retain its existing filename. Otherwise it is assumed that the URI describes a file and that filename will be used.

Start an export job for a collection or a library

POST /collection/ (*collection-id*) **/export**
POST /library/ (*library-id*) **/export**

Create export job for collection or library.

Query Parameters

- **uri** – A URI to the destination of the file.
- **locationName** – (New in 4.0.) The name of an Export Location (see *Export locations*)
- **tag** – Finds a shape with the specified tag and uses that for export. If not specified, the system will attempt to use the original shape.
- **metadata** –
  - `true` - Metadata will also be exported to side-car XML file.
  - `false` (default) - No metadata is exported.
- **projection** – Defines the projection to use when exporting the metadata (optional).
- **start** – Defines a start *Time codes* for the media (optional).
- **end** – Defines an end *Time codes* for the media (optional).
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **useOriginalFilename** – If set to true, the file(s) will be exported with their original filename if available.

Produces-xml-json *JobDocument*

Role _export

Semantics Creates a new export job that will copy all matching files in the collection/library to a remote location. A shape tag can be specified to decide which shapes that will be exported. The files will retain their original names and the URI should therefore point to the folder where the files should be placed.

Example Create a new export job that transfers files in a certain collection that has shapes with the tag `flv`.

```
POST /collection/VX-10/export?tag=flv&uri=file:/home/user/video/
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-1334</jobId>
  <user>admin</user>
  <started>2010-05-24T14:53:12.732+02:00</started>
  <status>READY</status>
  <type>EXPORT</type>
```

```
  <priority>MEDIUM</priority>
</JobDocument>
```

16.10.2 Items

Managing items

Retrieve a list of all items

GET /item

Content Parameters See *Retrieving item information*

Query Parameters

- **result** –
  - `list` (default) - Return a list of items.
  - `library` - Create a library with the matching items.
- **q** – XML/JSON, *ItemSearchDocument*. Only with GET (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.3).
- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Matrix Parameters

- **library** – Restricts search to within library, *Identifiers*. Default is `*`, all items.
- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.
- **libraryId** – If set, the library identified by this id will be used instead of creating a new library.
- **autoRefresh** – See *Self-refreshing libraries*. Defaults to `false`.
- **updateMode** – See *Self-refreshing libraries*. Defaults to `MERGE`.
- **updateFrequency** – See *Self-refreshing libraries*. Defaults to no periodic updates.

Produces

- **application/xml, application/json** – *ItemListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Role _item_search

Semantics Returns a list of all items. This request is the same as performing an empty search.

Get information about a single item

GET /item/ (*item-id*)

Matrix Parameters

- **starttc** –
  - `true` - Interval is given relative to start timecode of item.
  - `false` (default) - Interval is 0-based.

Query Parameters

- **noauth-url** – Whether to return thumbnail URLs not requiring authentication. Default value is `false`
- **baseURI** – Which base URI to use for the thumbnail URLs.

Produces

- **application/xml, application/json** – *ItemDocument*

Semantics Returns information about a single item.

Delete a single item

Deleting an item means removing the item's id, its metadata, shapes, and physical files.

DELETE /item/ (*item-id*)

Query Parameters

- **keepShapeTagMedia** – Optional comma-separated list of shape tags whose files will not be deleted.
- **keepShapeTagStorage** – Optional comma-separated list of storage ids whose files will not be deleted.

Semantics Marks the item as being deleted, meaning it will not be returned in search results. The actual removement from the database is done approximately once every minute. Also, all files associated with the item is marked as `TO_BE_DELETED`, meaning they will be deleted by the storage supervisor, but not sooner than all jobs involving the actual file has finished.

By specifying `keepShapeTagMedia` and/or `keepShapeTagStorage`, the files associated with the item is not deleted, but simply unassociated with the item.

If only `keepShapeTagMedia` is given, all files belonging to shapes of the item with any of the given shape tags are preserved.

If only `keepShapeTagStorage` is given, all files belonging to the item residing on the given storages are preserved. If both `keepShapeTagMedia` and `keepShapeTagStorage` is given, all files which *both* belongs to the specified shapes and storages are preserved.

New in version 4.3.2.

If any of `keepShapeTagMedia` or `keepShapeTagStorage` contains a value `*`, then no files will be removed.

Search items

PUT /item

Content Parameters See *Retrieving item information*

Query Parameters

- **result** –
  - `list` (default) - Return a list of items.
  - `library` - Create a library with the matching items.
- **q** – XML/JSON, *ItemSearchDocument*. Only with GET (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.3).
- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Matrix Parameters

- **library** – Restricts search to within library, *Identifiers*. Default is `*`, all items.
- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.
- **libraryId** – If set, the library identified by this id will be used instead of creating a new library.
- **autoRefresh** – See *Self-refreshing libraries*. Defaults to `false`.
- **updateMode** – See *Self-refreshing libraries*. Defaults to `MERGE`.
- **updateFrequency** – See *Self-refreshing libraries*. Defaults to no periodic updates.

Produces

- **application/xml, application/json** – *ItemListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Role _item_search

Semantics

Performs an item search. If the *result* query parameter is set to *library* a new library is created, which can be used to further refine the search, using the *library* parameter.

Note that searching can also be performed by using the HTTP method PUT (http://www.w3.org/Protocols/rfc2616/rfc2616-sec9.html#sec9.6) using the same syntax, except for the parameter `q` is omitted and the *ItemSearchDocument* is sent in the body of the request.

Tip: There is a limit on how many items that can be returned for each call to this method. To get all items, iterate the calls, or even better in a batch scenario, start a job using *Listing items in batch* to get all items at once.

Example

```
GET /item?result=library
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>product_category</name>
    <value>tv</value>
  </field>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <library>VX*1233</library>
  <item>VY-1233</item>
  <item>VY-1234</item>
  <item>VX-7888</item>
</ItemListDocument>

PUT /item;library=VX*1233
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>created</name>
    <range>
      <value>2014-05-30T00:00:00+0200</value>
      <value>2014-06-03T07:30:00+0200</value>
    </range>
  <field>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <library>VX*1234</library>
  <item>VY-1233</item>
  <item>VX-7888</item>
</ItemListDocument>
```

Search history

Retrieve search history

`GET /item/history`

Retrieves a list of searches made by a particular user, including "item search" and "Item and collection search". The results are ordered according to timestamp, with the latest searches being first. Duplicate queries will not be retrieved.

Query Parameters

- **start** – Optional ISO8601 date. If set, only searches made after this date will be retrieved.
- **maxResults** – Integer, the maximum number of searches that will be retrieved. The value must be between 1 and 50, default is 10.
- **username** – The name of the user that has performed the searched. If not specified, the user performing the request will be selected.

Produces

- **application/xml, application/json** – *SearchHistoryListDocument*.

Role _item_search

Re-index item

PUT /item/ (*item-id*) **/re-index**
Queues a single item for re-index.

See *Re-indexing metadata* if you wish to reindex all items in the system.

Listing items in batch

Creating an item list job

POST /item/list
Starts a new job that goes through all the items available to the user/group and outputs a file to the supplied URI.

If no user and no group is supplied, all items will be retrieved. The output format depends on the specified parameter, if set to XML an *ItemListDocument* will be produced. Furthermore if an XSLT is given the *ItemListDocument* will be transformed.

Query Parameters

- **destinationUri** – The URI to output the CSV file to.
- **username** – Filter items according to the access of the specified user.
- **groupname** – Filter items according to the access of the specified group.
- **field** – A comma-separated list of metadata fields to include in the result.
- **outputFormat** – Specifies the output format. Valid values are `xml` (default) and `csv`.
- **data** – Specifies any additional data that should be included with the metadata fields.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Accepts

- **application/xslt** – An optional XSLT capable of transforming *ItemListDocument*.

Produces

- **application/xml, application/json** – *JobDocument*.

Role _administrator

Example

```
POST /item/list?field=title,durationSeconds&username=admin&destinationUri=file:/home/user/output.csv
Content-Type: application/xml

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-64</jobId>
  <user>admin</user>
```

```
  <started>2010-11-29T11:12:55.768+01:00</started>
  <status>READY</status>
  <type>LIST_ITEMS</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

```
$ cat /home/user/output.csv
"itemId","format","fileSize","downloads","metadataField-title","metadataField-durationSeconds"
"VX-22","mxf","10000000","1","","180.0"
"VX-18","mp3,aac","5876698,4253659","0","","212.242695"
"VX-12","flv","23939202","5","This is ""the"" title.","142.124698"
"VX-8","flv","5684452","3","","12.412487"
```

Parent collections

List collections that contain an item

GET /item/ (*item-id*) **/collections**

Produces

- **application/xml, application/json** – *URIListDocument* containing the collection ID of all collections that includes the item, and that the calling user has read access to.

Role _item_read

Example

```
GET /item/VX-94/collections
```

```
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-23</uri>
  <uri>VX-64</uri>
</URIListDocument>
```

16.10.3 Retrieving item information

Item content can be retrieved from different resources, the query parameters used are the same for the different resources. Below a table of the different supported resources can be seen.

Name	BASE_PATH
Search	/item, /search
Specific items	/item/{item-id}
Libraries	/library/{library-id}
Collections	/collection/{collection-id}/item

Get item information

By using a content parameter, much information can be gathered in one single call to the API.

Get information

GET {item-content-resource}

Retrieves the types of content that are specified in `content`. If URIs are included then the parameters `type` or `tag` needs to be set.

Query Parameters

- **content** – Comma-separated list of the types of content to retrieve, possible values are `metadata`, `uri`, `shape`, `poster`, `thumbnail`, `access`, `merged-access`, `external`.
- **interval** – A metadata parameter, see *Get metadata*.
- **field** – A metadata parameter, see *Get metadata*.
- **group** – A metadata parameter, see *Get metadata*.
- **language** – A metadata parameter, see *Get metadata*.
- **samplerate** – A metadata parameter, see *Get metadata*.
- **track** – A metadata parameter, see *Get metadata*.
- **terse** – A metadata parameter, see *Get metadata*.
- **include** – A metadata parameter, see *Get metadata*.
- **type** – A URI parameter, see *Get item URI*.
- **tag** – A URI parameter, see *Get item URI*.
- **scheme** – A URI parameter, see *Get item URI*.
- **closedFiles** – A URI parameter, see *Get item URI*.
- **noauth-url** – If `true`, thumbnail URIs that do not need authentication are returned. If `false` (default), normal thumbnail URIs are returned.
- **defaultValue** – A metadata parameter, see *Get metadata*.
- **methodType** – Optional type of storage method. When returning URIs, only use methods of this type. See *Storages*.
- **methodMetadata** – Optional metadata used with storage method. See *Storages*.
- **version** – Optional integer, specifying which essence version to return for shapes. If special value `all`, display all versions. If special value `latest` (default), display latest version of shapes.
- **revision** – Optional revision, specifying which metadata to display. Only used if requesting a single item or collection.

Produces

- **application/xml, application/json** – *ItemDocument*

Role _metadata_read

Role _thumbnail_read

Role _item_uri

Example Retrieving terse metadata and thumbnails for an item.

```
GET /API/item/VX-123/?content=metadata,thumbnail&terse=yes
```

```
<ItemDocument id="VX-123">
    <thumbnails>
        <uri>http://example.com/API/thumbnail/VX-1/VX-123/0@1000000</uri>
        <uri>http://example.com/API/thumbnail/VX-1/VX-123/1000000@1000000</uri>
        <uri>http://example.com/API/thumbnail/VX-1/VX-123/2000000@1000000</uri>
    </thumbnails>
    <terse>
        <durationSeconds end="+INF" start="-INF">2.04</durationSeconds>
        <durationTimeCode end="+INF" start="-INF">2040000@1000000</durationTimeCode>
        <field_A end="7" start="3">ABC</field_A>
        <title end="+INF" start="-INF">This is an imported item!</title>
        <user end="+INF" start="-INF">testUser</user>
    </terse>
</ItemDocument>
```

Get item content in the search result

The parameters above can also be used when searching (*Search*). Note that only content the user has sufficient permissions for will be retrieved.

Example Retrieving the URIs to all AVI containers that can be accessed either by HTTP or FTP for all items.

```
GET /API/item/?content=uri&type=avi&scheme=http,ftp
```

```
<ItemListDocument>
    <item id="VX-123">
        <files>
            <uri>ftp://example.com/VX-123_VX-2189.avi</uri>
        </files>
        <timespan start="-INF" end="+INF"/>
    </item>
    <item id="VX-124">
        <files/>
        <timespan start="-INF" end="+INF"/>
    </item>
    <item id="VX-125">
        <files>
            <uri>http://example.com/VX-125_VX-3180.avi</uri>
            <uri>ftp://example.com/VX-125_VX-3180.avi</uri>
        </files>
        <timespan start="-INF" end="+INF"/>
    </item>
</ItemListDocument>
```

Retrieving URIs to the content of an item

The URI retrieval method is a scaled-down version of the *Get information* method above.

Get item URI

GET /item/ (*item-id*) **/uri**
Retrieves the URI to any container contained in the item that matches the specified type or the files contained in a shape that matches the given tags.

Query Parameters

- **type** – Optional comma-separated list of format types (container format) to return.
- **tag** – Optional comma-separated list of shape tags to return. See *Shape tags*.
- **scheme** – Optional URI scheme to return, e.g. `ftp`.
- **closedFiles** –
  - `true` (default) - Return only URIs that point to closed files.
  - `false` - Return all URIs.

Produces

- **application/xml, application/json** – *URIListDocument*

Role _item_uri

Example

```
GET /item/VX-123/uri?type=avi&tag=lowres
Accept: application/xml

<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <uri>http://example.com/VX-123_VX-5003.avi</uri>
    <uri>ftp://user:password@example.com/VX-123_VX-5003.avi</uri>
</URIListDocument>
```

16.10.4 Item locks

Items can be locked by users to temporarily prevent access from other users. This can be used to prevent users from working with stale and conflicting data. Locks should not be seen as an alternative to access control, as any user that has write access to an item can remove the locks.

If any user attempts to access an item that is locked by another user, HTTP status code 409 Conflict (http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html#sec10.4.10) will be returned. For example:

```
HTTP/1.1 409 Operation would lead to conflict
Context: lock
ID: VX-123
Reason: That entity is locked by another user.
Value: the-name-of-the-other-user
```

Managing locks

All locks are associated with an expiration date and will be removed after they expire.

Create a lock

POST /item/ (*item-id*) **/lock**

Creates a new lock for the item with an expiration date. The expiration date is the sum of the timestamp and the duration. If no timestamp and no duration is given, the expiration date will be set to 24 hours forward in time.

Query Parameters

- **timestamp** – An ISO 8601 compatible timestamp (**optional**). Defaults to the current time.
- **duration** – An ISO 8601 compatible duration (**optional**). Defaults to zero.

Status Codes

- **200 OK** – The lock was created.
- **409 Conflict** – Some other user already holds a lock on that item.

Role _lock_write

Example Create a lock for a specific timestamp:

```
POST /item/VX-123/lock?timestamp=2010-08-20T15:00:00+02:00

200 OK
```

Create a lock for 3 hours:

```
POST /item/VX-123/lock?duration=PT3H

200 OK
```

Retrieve information about a lock

GET /item/ (*item-id*) **/lock**

Retrieves information about the expiration date and which user that holds the lock.

Status Codes

- **404 Not Found** – Either the item or the lock could not be found.

Produces

- **application/xml, application/json** – *LockDocument*

Role _lock_read

Example

```
GET /item/VX-123/lock

<LockDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <id>VX-123</id>
   <user>admin</user>
   <expires>2010-08-20T15:00:00.000+02:00</expires>
</LockDocument>
```

Remove a lock

DELETE /item/ (*item-id*) **/lock**
Removes the lock for the item.

Status Codes

- **200 OK** – The lock was removed.

Role _lock_write

Example

```
DELETE /item/VX-123/lock

200 OK
```

Extend the expiration date of a lock

PUT /item/ (*item-id*) **/lock**
Sets a new expiration date for the lock. The expiration date is the sum of the timestamp and the duration. If no timestamp and no duration is given, the expiration date will be set to 24 hours forward in time.

Query Parameters

- **timestamp** – An ISO 8601 compatible timestamp (**optional**). Defaults to the current time.
- **duration** – An ISO 8601 compatible duration (**optional**). Defaults to zero.

Status Codes

- **200 OK** – The lock was extended.

Role _lock_write

Example

```
POST /item/VX-123/lock?timestamp=2010-08-20T16:00:00+02:00

200 OK
```

16.10.5 Item-to-item relations

This section describes relations between items. The relation can be used to find ancestors, derived items, or simply loosely related items.

Type of relations

Relations

- can be directional or undirectional. In a directional relation, one item is the source and another item is the target. In an undirectional relation, the two items are treated equally
- are manually built using the API or created automatically. An example of automatically built relations is the timeline conform method, which automatically creates directed relations
- have metadata as key-value pairs. One key-value pair which is always present is the `type` key, which describes the reason of the relationship.

Automatically generated relations

Item-to-item relations are automatically generated by timeline conform actions. These relations are directional from source item(s) to target item. The relations have the following tags:

- `key=conform`
- `conform-job=` { **conform-job** }

Managing item relations

Get list of item relations

GET /item/(*id*)**/relation**

Returns a list of relations that matches the search criteria. Item id can be an *Identifiers*, that is libraries can be used.

Query Parameters

- **direction** –
  - `U` - Only return undirectional relations where `id` is part of.
  - `S` - Only return directional relations where `id` is the source item.
  - `T` - Only return directional relations where `id` is the target item.
  - `D` - Only return directional relations where `id` is the source or target item.
  - `A` (default) - Return all relations that `id` is a part of.

Status Codes

- **400** – An invalid direction has been specified.
- **404** – Could not find the item identified by `id`.

Produces

- **application/xml, application/json** – *ItemRelationListDocument*.
- **text/plain** – *CR LF* -delimited list of *Tabbed tuples* of relation id, relation URI, direction type (`U`, `D`), relation type, and source id, target id.

Role _relation_read

In addition, extra query parameters of the form `key=value` can be added, to only return relations that matches the key-value pair(s).

Generate a new item relation

POST /item/(*id1*)**/relation/**

id2 Generates a new relation between the two items with the given ids, `id1` and `id2`, with the given parameters.

Query Parameters

- **direction** – Mandatory parameter.
  - `U` - Set the direction of the relation as undirectional.
  - `S` - Set the direction as `id1` being the source and `id2` being the target.
  - `T` - Set the direction as `id2` being the source and `id1` being the target.

Status Codes

- **400 Bad request** – Both `id1``* and ``id2` identifies the same item, or the direction is invalid.
- **404 Not found** – Could not find the item identified by `id1` or `id2`.

Produces

- **application/xml, application/json** – *ItemRelationDocument*

Role _relation_write

In addition, extra query parameters of the form `key=value` can be added, to set metadata of the item-to-item relation.

Retrieve a specific item relation

GET /relation/ (*relation-id*)
Retrieves the relation with the id `relation-id`.

Status Codes

- **404 Not found** – Could not find the relation identified by `relation-id`.

Produces

- **application/xml, application/json** – *ItemRelationDocument*.

Role _relation_read

Update an item relation

PUT /relation/ (*relation-id*)
Updates the relation metadata for a relation with the id `relation-id`.

Status Codes

- **404 Not found** – Could not find the relation identified by `relation-id`.

Produces

- **application/xml, application/json** – The updated item described as an *ItemRelationDocument*.

Role _relation_write

Query parameters of the form `key=value` are used to modify the metadata of the relation.

Delete an item relation

DELETE /relation/ (*relation-id*)
Deletes the relation with the id `relation-id`.

Status Codes

- **200 OK** – The item relation is deleted.
- **404 Not found** – Could not find the relation identified by `relation-id`.

Role _relation_write

16.10.6 Item sequences

Sequence operations

List the available sequences

GET /item/(*id*)**/sequence**
Retrieves the sequences that have been stored for a specific item.

Status Codes

- **404 Not found** – Could not find the item

Produces

- **application/xml, application/json** – *SequenceListDocument*

Role _sequence_read

Create/update a sequence

PUT /item/(*id*)**/sequence/**
format Creates or updates the sequence in the given format.

Query Parameters

- **pauseFrame** – When a rendering job is started, this parameter determines which frame the job will pause at. The job will resume when the sequence is updated.

Status Codes

- **404 Not found** – Could not find the item

Accepts

- **application/octet-stream** – The sequence definition

Produces

- **application/xml, application/json** – *ItemDocument* with the id of the sequence

Role _sequence_write

Remove a sequence

DELETE /item/(*id*)**/sequence/**
format Removes a specific sequence from an item.

Status Codes

- **404 Not found** – Could not find the item
- **404 Not found** – Could not find the sequence

Role _sequence_write

Rendering a sequence

A sequence can be rendered which creates a new shape that for example can be used as a preview of the sequence. The shape tag that is provided must have a transcode preset the specifies at least:

- The container format.
- The audio codec and bitrate (optional for PCM.)
- The video codec and bitrate.

The transcoder can render a subset of the effects (both normal and key framed) and transitions that are available in Final Cut and Avid Media Composer. They are:

- Effects
  - Crop
  - Position
  - Scale
  - Rotate
  - Opacity
- Transitions
  - Dissolves
    - Cross dissolve
    - Dither dissolve
    - Fade in fade out dissolve
  - Wipes
    - Band wipe
    - Centre wipe
    - Checker wipe
    - Inset wipe
  - Iris wipes
    - Cross iris
    - Diamond iris
    - Oval iris
    - Rectangle iris
    - Star iris

Render a standalone sequence

`POST /sequence/render`

Creates a new job that renders the given sequence. A new item will be created containing a shape with the rendered result once the job is finished.

Query Parameters

- **tag** – The shape tag specifying the format of the rendered sequence.

- **sourceTag** – The shape tag specifying the shapes to use as input.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Status Codes

- **404 Not found** – Could not find the item

Accepts

- **application/xml, application/json** – *SequenceRenderRequestDocument*

Produces

- **application/xml, application/json** – *JobDocument*

Role _job_write

Rendering a sequence on an item

New in version 4.1.1.

`POST /item/` (*id*) **`/sequence/render`**

Creates a new job that renders the sequence for the given item. The item will contain a new shape with the rendered result once the job is finished.

Query Parameters

- **tag** – The shape tag specifying the format of the rendered sequence.
- **sourceTag** – The shape tag specifying the shapes to use as input.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Status Codes

- **404 Not found** – Could not find the item

Produces

- **application/xml, application/json** – *JobDocument*

Role _sequence_read

Role _job_write

Example

`POST /item/VX-8/sequence/render?tag=h264`

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-13</jobId>
  <user>admin</user>
  <started>2011-10-26T20:23:11.897Z</started>
  <status>READY</status>
  <type>CONFORM</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

16.10.7 Shapes

Item shapes

Get list of shapes

GET /item/(*id*)**/shape**

Returns all existing shapes for a specified item.

Matrix Parameters

- **version** –
  - *essence-version-id* - Return shapes for a specified version.
  - `all` - Return shapes for all versions.
  - `latest` (default) - Return shapes for the latest version.

Query Parameters

- **url** –
  - `true` - Return list of URLs.
  - `false` (default) - Return list of ids.
- **placeholder** – New in version 4.2.3.
  - `true` - Only return placeholder shapes.
  - `false` (default) - Only return non-placeholder shapes.

Status Codes

- **404 Not found** – Invalid id

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Role _item_shape_read

Get shape

GET /item/(*id*)**/shape/**

shape-id Returns a shape for a specified item.

Status Codes

- **404 Not found** – Invalid id

Produces

- **application/xml, application/json** – *ShapeDocument*

Role _item_shape_read

Deleting a shape

DELETE /item/(*id*)**/shape/**

shape-id Removes the specified shape. This will remove all components and and mark files for deletion, unless files are used in other shapes.

Query Parameters

- **url** –
  - `true` - Instead of shape ids, return the full paths of the shapes in the response document.
  - `false` (default) - Only return the ids of the remaining shapes.
- **keepFiles** –
  - `true` - Keep the files belong to this shape.
  - `false` (default) - Remove the files belong to this shape.
- **updateMetadata** –
  - `true` - Remove the item metadata that is generate from this shape
  - `false` (default) - Keep the item metadata that is generate from this shape

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Role _item_shape_write

Importing a new shape

New shape can be imported in one of two methods. Both methods share a lot of similarities to item imports, *using a URI* or *using the request body*. The difference between a shape import and an essence version import is that it does not increment the essence version nor does it perform any transcoding.

Import a shape using a URI or an existing file

POST /item/(*id*)**/shape**

Starts a new shape import job using either a URI or a file id.

Query Parameters

- **uri** – A URI to the file that will be imported. See also *URI's, URL's, and Special Characters*. Must be specified unless `fileId` is specified.
- **fileId** – The id of the file that contains the essence. Must be specified unless `uri` is specified.
- **tag** – The tags to assign to the new shape.

- **settings** – Pre-configured import settings. See *Import settings*
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Import a shape using the request body

`POST /item/` (*id*) **`/shape/raw`**

Starts a new shape import job using the data in the request data.

Query Parameters

- **tag** – The tags to assign to the new shape.
- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.
- **settings** – Pre-configured import settings. See *Import settings*
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Accepts

- **application/octet-stream** – The raw essence data.

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Creating thumbnails and posters

Thumbnails and posters of a specific shape can be created by starting a thumbnail job.

Start a thumbnail job

New in version 4.2.3.

POST /item/ (*item-id*) **/shape/** *shape-id***/thumbnail** Creates a new thumbnail job with the specified parameters. Note that a job cannot both create thumbnails at specified intervals and posters. Creating thumbnails according to transcoder rules and creating posters is however allowed.

Query Parameters

- **createThumbnails** –
  - `true` - Creates thumbnails according to default transcoder rules.
  - *t1*, ... - Thumbnails will be created on the specified, comma-separated, *Time codes*.
  - `false` (default) - No thumbnails will be created.
- **createPosters** – An optional list of *Time codes* to use for creating posters.
- **thumbnailWidth** – An optional integer specifying the width of the thumbnails.
- **thumbnailHeight** – An optional integer specifying the width of the thumbnails.
- **thumbnailPeriod** – An optional timecode string specifying the interval of the thumbnails. It should be a decimal integer when working with multi-page images/PDFs, meaning every N page(s).
- **posterWidth** – An optional integer specifying the width of the posters.
- **posterHeight** – An optional integer specifying the width of the posters.
- **posterFormat** –
  - `jpeg` (default) - Creates posters in JPEG format.
  - `png` - Creates posters in PNG format.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocument*

Essence versions

New versions of essence can be imported in one of two methods. Both methods share a lot of similarities to item imports, *using a URI* or *using the request body*.

Get all essence versions for an item

GET /item/ (*id*) **/shape/version**
Returns a list containing URLs to all essence versions of the item.

Produces

- **application/xml, application/json** – *EssenceVersionListDocument* containing information to all essence versions of the item.

Role _item_shape_read

Import essence version using a URI or an existing file

POST /item/ (*id*) **/shape/essence**

Starts a new essence import job using either a URI or a file id.

Query Parameters

- **uri** – A URI to the file that will be imported. See also *URI's, URL's, and Special Characters*. Must be specified unless `fileId` is specified.
- **fileId** – The id of the file that contains the essence. Must be specified unless `uri` is specified.
- **tag** – The tags to assign to the new shape.
- **settings** – Pre-configured import settings. See *Import settings*
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Import essence version using the request body

POST /item/ (*id*) **/shape/essence/raw**

Starts a new essence import job using the data in the request data.

Query Parameters

- **tag** – The tags to assign to the new shape.
- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.
- **settings** – Pre-configured import settings. See *Import settings*
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Accepts

- **application/octet-stream** – The raw essence data.

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Get a particular essence versions for an item

GET /item/(*id*)**/shape/version/**

version-number Returns a list of shapes from the specified version.

Produces

- **application/xml, application/json** – *EssenceVersionDocument* containing all the shapes with the specified version.

Role _item_shape_read

Deleting an essence version of an item

DELETE /item/(*id*)**/shape/version/**

version Deletes all shapes associated with the specified version. Thumbnails connected to the version will also be deleted.

Role _item_shape_write

Create/delete shapes

Create shape

POST /item/(*id*)**/shape**

Matrix Parameters

- **version** –
  - *essence-version-id* - Version to use.
  - `latest` (default) - Use latest version of item.

Query Parameters

- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Accepts

- **application/xml, application/json** – *ShapeDocument*

Produces

- **application/xml, application/json** – *JobDocument*
- **text/plain** – Job URL

Role _item_shape_write

Semantics Creates a new shape for the specified item. Actually, this function will create a new job that will

1. create a new shape
2. allocate files on adequate storages, or allocate files on storages given as input
3. create transfer/transcode jobs

Only source files from the specified version is used to create the new shape. The new shape will have the same essence version as the original essence.

Update shape with new essence

POST /item/(*id*)**/shape/**
*shape-id***/update** Generates a new shape.

Matrix Parameters

- **version** –
  - *essence-version-id* - Version to use.
  - `latest` (default) - Use latest version of item.

Produces

- **application/xml, application/json** – *ShapeDocument*
- **text/plain** – Shape URL

Role _item_shape_write

Semantics

Generates a new shape given structure for the specified shape, and the essence from another essence version. The new shape will have a new shape id, and the essence version will be the one specified.

Modify shapes

PUT /item/(*id*)**/shape/**
*shape-id***/placeholder**

Query Parameters

- **tag** – Optional comma separated shape tags to be added to the shape.
- **container** – Optional integer, the number of container components
- **audio** – Optional integer, the number of audio components
- **video** – Optional integer, the number of video components

Accepts

- **application/xml, application/json** – *SimpleMetadataDocument*

Role _import

Semantics Creates a new shape for the specified item. Actually, this function will create a new job that will

1. create a new shape
2. allocate files on adequate storages, or allocate files on storages given as input
3. create transfer/transcode jobs

Only source files from the specified version is used to create the new shape. The new shape will have the same essence version as the original essence.

Shape files

Get files for shape

GET /item/(*id*)**/shape/***shape-id*__/file__ Returns all files that are associated with the specified shape.

Produces

- **application/xml, application/json** – *ComponentListDocument*

Role _item_shape_read

Shape metadata

New in version 4.0.

Please refer to *Key-value metadata*.

Updating an existing shape

If the shape deduction on import for some reason gave an incorrect result, it is possible to re-run the shape deduction using this command.

Re-run a shape deduction on an existing shape

POST /item/(*item-id*)**/shape/***shape-id*__/update__ Starts a new shape deduction job for the specified shape.

Query Parameters

- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocument*

Role _item_shape_write

Tags of a shape

Get a list of tags associated with a shape

GET /item/(*item-id*)**/shape/***shape-id***/tag/** Retrieves all shape tags associated with a certain shape.

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – A list of the tags.

Role _shape_tag_read

Add a tag to a shape

PUT /item/(*item-id*)**/shape/***shape-id***/tag/***tag-name* Adds shape tag with the given name to the specified shape. If the shape already has that tag, this operation does nothing.

Status Codes

- **200 OK** – Tag added successfully.
- **404 Not found** – No tag with that name exists.

Role _shape_tag_write

Remove a tag from a shape

DELETE item/(*item-id*)**/shape/***shape-id***/tag/***tag-name* Removes a tag with the given name from the specified shape.

Status Codes

- **200 OK** – Tag added successfully.
- **404 Not found** – No tag with that name exists within the shape.

Role _shape_tag_write

Shape mime types

List all mime types for a shape

GET /item/(*id*)**/shape/***shape-id***/mime/** Lists all mime types that are set on the shape. These can also be seen the *ShapeDocument* of the shape.

Produces

- **application/xml, application/json** – *URIListDocument* containing all the mime types of the shape.

Role _item_shape_read

Add a mime type

PUT /item/ (*id*) **/shape/**
*shape-id***/mime/***mime-type* Adds a new mime type to the shape. This operation does nothing if the shape already has the mime-type.

Role _item_shape_write

Remove a mime type

DELETE /item/ (*id*) **/shape/**
*shape-id***/mime/***mime-type* Removes a mime type from the shape.

Role _item_shape_write

16.10.8 Shape analysis

Shapes can be analyzed to detect for example detect cropping and silence.

Operations

Analyze a shape

POST /item/ (*item-id*) **/shape/**
*shape-id***/analyze** Analyzes the specified shape with the parameters specified in the job document. The result of the analyze will appear in the *RestBulkyMetadata* of the shape.

Query Parameters

- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*

Accepts

- **application/xml, application/json** – *AnalyzeJobDocument*

Produces

- **application/xml, application/json** – *JobDocument*

Role _job_write

Example Analyze a shape with default parameters:

```
POST /item/VX-123/shape/VX-456/analyze
Content-Type: application/xml

<AnalyzeJobDocument xmlns="http://xml.vidispine.com/schema/vidispine"/>
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-426</jobId>
  <user>admin</user>
  <started>2012-03-26T11:27:49.173Z</started>
  <status>READY</status>
  <type>ANALYZE</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

Example Analyze a shape with custom parameters:

```
POST /item/VX-124/shape/VX-457/analyze
Content-Type: application/xml

<AnalyzeJobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <black>
    <threshold>0.1</threshold>
    <percentage>95</percentage>
  </black>
  <freeze>
    <time>1.0</time>
    <threshold>0.05</threshold>
  </freeze>
  <bars>
    <percentage>10</percentage>
    <threshold>0.05</threshold>
  </bars>
</AnalyzeJobDocument>

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-427</jobId>
  <user>admin</user>
  <started>2012-03-26T11:27:49.173Z</started>
  <status>READY</status>
  <type>ANALYZE</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

In this example, settings for black frame, freeze and bar detection are included. The `threshold` elements determine the threshold to use when detecting black frames or freezes. The values have the following meaning:

- `threshold` for black frame detection and bar detection denotes that any pixel whose value is greater than `threshold` * 255 should not be regarded as black. I.e. only if `threshold` is 0 will only completely black pixels be counted.
- For freeze frame detection `threshold` determines how much any one pixel may change between two frames. If the difference in value between two frames is greater than `threshold` * 255, the frame will not be regarded as frozen.

Viewing the results

The results of the analysis is stored in the bulky metadata for the shape. For example, to view the black frame information (if available), go to `/item/VX-123/shape/VX-456/metadata/bulky/black`. You should see something like the following:

```
<BulkyMetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine" id="VX-295">
  <field stream="0" end="6@50" start="0@50">
    <key>black</key>
    <value>1</value>
  </field>
  <field stream="0" end="1650@50" start="1490@50">
    <key>black</key>
    <value>1</value>
  </field>
</BulkyMetadataDocument>
```

Each field contains a `start` and an `end` attribute, denoting the start and end timecodes for the black frames.

Loudness analysis

When an analysis is done, a loudness analysis is done automatically. The result of the loudness analysis is written to the bulky metadata, but there are utility methods to easily extract the information.

Get loudness values

GET /item/ (*item-id*) **/loudness**
Extracts loudness information from bulky metadata.

Produces

- **application/xml, application/json** – *LoudnessDocument*

Role _item_shape_read

Example

```
POST /item/VX-124/shape/VX-457/analyze

GET /item/VX-124/loudness

<LoudnessDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-124</id>
  <shape>VX-457</shape>
  <shapeTag>original</shapeTag>
  <mix>
    <name>Left</name>
    <weightdB>0.0</weightdB>
    <sourceStream>0</sourceStream>
    <sourceChannel>0</sourceChannel>
  </mix>
  <mix>
    <name>Right</name>
    <weightdB>0.0</weightdB>
    <sourceStream>0</sourceStream>
    <sourceChannel>1</sourceChannel>
  </mix>
  <mix>
    <name>Center</name>
    <weightdB>0.0</weightdB>
  </mix>
  <mix>
```

```
    <name>Left Surround</name>
    <weightdB>1.5</weightdB>
  </mix>
  <mix>
    <name>Right Surround</name>
    <weightdB>1.5</weightdB>
  </mix>
  <startLoudness>0@48000</startLoudness>
  <endLoudness>1339200@48000</endLoudness>
  <startRange>0@48000</startRange>
  <endRange>1296000@48000</endRange>
  <loudnessLU>0.014140396527686505</loudnessLU>
  <loudnessRangeLU>4.974758665644899</loudnessRangeLU>
</LoudnessDocument>
```

Get loudness values for interval

PUT /item/(*item-id*)**/loudness**

Extracts loudness information from bulky metadata. Start and end range can be specified, as well as custom mixing.

Accepts

- **application/xml, application/json** – *LoudnessDocument*

Produces

- **application/xml, application/json** – *LoudnessDocument*

Role _item_shape_read

16.10.9 Shape components

Components

Get components for shape

GET /item/(*id*)**/shape/**

*shape-id***/component** Returns all components for a specified shape. Currently, this call returns the same information as the return shape, but is available for orthogonality.

Status Codes

- **404 Not found** – Invalid id

Produces

- **application/xml, application/json** – *ComponentListDocument*

Role _item_shape_read

Get component information

GET /item/(*id*)**/shape/**

*shape-id***/component/***component-id* Returns all files for a specified component.

Produces

- **application/xml, application/json** – *FileListDocument*
- **text/plain** – List of file URLs

Role _item_shape_read

Get component information for specified storage

GET /item/(*id*)**/shape/***shape-id***/component/***component-id***/storage/***storage-id* Returns the status for specified component on specified storage. See *File States*.

Produces

- **application/xml, application/json** – *FileListDocument*
- **text/plain** – Status information of component

Role _item_shape_read

Create/remove component on storage

Add component location

PUT /item/(*id*)**/shape/***shape-id***/component/***component-id***/storage/***storage-id* Creates a transfer of specified component of item to storage.

Query Parameters

- **from** –
  - *timestamp* - ISO8601 timestamp. Schedule transfer so that file is available on storage at specified time.
  - `now` (default) - Schedule transfer so that file is available on storage as soon as possible.
- **until** –
  - *timestamp* - ISO8601 timestamp. After this point of time, file may be removed from storage.
  - `forever` - File may never be removed from storage.
  - `none` (default) - Do not automatically retransfer file if deleted

Produces

- **application/xml, application/json** – *JobRuleDocument*
- **text/plain** – **job-id /** *CR LF* {rule-id}

Role _item_shape_write

Semantics The transfer may create an immediate job (if `from=now`) and/or a rule (unless `from=now` and `until=none`). If a new `PUT` request is performed, it will override the rule for the old one. An ongoing job is not affected, though.

Remove component from storage

DELETE /item/(*id*)**/shape/**
*shape-id***/component/***component-id***/storage/***storage-id* Deletes the rules for the specified component and storage. Also marks the file for deletion.

Produces

- **application/xml, application/json** – empty *JobRuleDocument*
- **text/plain** – OK

Role _item_shape_write

Import component using a URI or an existing file

POST /item/(*id*)**/shape/**
*shape-id***/component**

Query Parameters

- **uri** – The URI to the file containing the new shape.
- **fileId** – The id of the file that contains the new shape.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **settings** – Pre-configured import settings. See *Import settings*

Produces

- **application/xml, application/json** – *JobDocument*

Role _import

Component metadata

New in version 4.0.

Please refer to *Key-value metadata*.

16.10.10 Thumbnails

Creating thumbnails and posters

Thumbnails and posters can be created by starting a thumbnail job.

Start a thumbnail job

POST /item/ (*item-id*) **/thumbnail**

Creates a new thumbnail job with the specified parameters. Note that a job cannot both create thumbnails at specified intervals and posters. Creating thumbnails according to transcoder rules and creating posters is however allowed.

Query Parameters

- **createThumbnails** –
  - `true` - Creates thumbnails according to default transcoder rules.
  - *t1*, ... - Thumbnails will be created on the specified, comma-separated, *Time codes*.
  - `false` (default) - No thumbnails will be created.
- **createPosters** – An optional list of *Time codes* to use for creating posters.
- **thumbnailWidth** – An optional integer specifying the width of the thumbnails.
- **thumbnailHeight** – An optional integer specifying the width of the thumbnails.
- **thumbnailPeriod** – An optional timecode string specifying the interval of the thumbnails. It should be a decimal integer when working with multi-page images/PDFs, meaning every N page(s).
- **posterWidth** – An optional integer specifying the width of the posters.
- **posterHeight** – An optional integer specifying the width of the posters.
- **posterFormat** –
  - `jpeg` (default) - Creates posters in JPEG format.
  - `png` - Creates posters in PNG format.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*
- **version** – (New in 4.1.0.) An optional version number. For creating thumbnails for older versions of the item essence. Default is latest version.
- **sourceTag** – (New in 4.2.3.) Optional comma separated shape tags. The fist valid shape will be chosen as the source of the job. If non of the tags are valid, the original shape will be used.

Produces

- **application/xml, application/json** – *JobDocument*

Example Creating thumbnails according to transcoder rules and posters at the time codes 50@PAL and 100@PAL.

```
POST /item/VX-123/thumbnail?createThumbnails=true&createPosters=50@PAL,100@PAL&sourceTag=mov,mp4
```

```
<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <jobId>VX-1219</jobId>
   <user>admin</user>
   <started>2010-04-23T11:24:24.434+02:00</started>
   <status>READY</status>
```

```
   <type>THUMBNAIL</type>
   <priority>MEDIUM</priority>
</JobDocument>
```

Item thumbnail resources

The following requests deal with managing thumbnail resources for specific items.

Get resources for an item

GET /item/ (*item-id*) **/thumbnailresource**
Return one or more poster resource URIs which can be used to manage the thumbnails for a specific item.

Produces

- **text/plain** – CRLF-delimited list of thumbnail resource URIs
- **application/xml, application/json** – *URIListDocument* of thumbnail resource URIs

New in version 4.2.

GET /item/ (*item-id*) **/posterresource**
Return one or more poster resource URIs which can be used to manage the posters for a specific item.

Produces

- **text/plain** – CRLF-delimited list of thumbnail resource URIs
- **application/xml, application/json** – *URIListDocument* of thumbnail resource URIs

Put resources for an item

PUT /item/ (*item-id*) **/thumbnailresource**
If no thumbnail resources are defined for an item, create a resource and return it.

Produces

- **text/plain** – CRLF-delimited list of thumbnail resource URIs
- **application/xml, application/json** – *URIListDocument* of thumbnail resource URIs

New in version 4.2.

PUT /item/ (*item-id*) **/posterresource**
If no poster resources are defined for an item, create a resource and return it.

Produces

- **text/plain** – CRLF-delimited list of thumbnail resource URIs
- **application/xml, application/json** – *URIListDocument* of thumbnail resource URIs

---

Note: Thumbnails and posters for an item share the same resource. Hence, if a resource is added for posters, it is automatically added for thumbnails as well.

Thumbnail resource handling

The following requests deal with managing collections of thumbnail URIs for a specific thumbnail resource.

Get list of thumbnails

GET {thumbnail-resource-resource}
Returns thumbnail URIs on which further requests may be performed.

Query Parameters

- **noauth-url** –
  - `true` Return URIs that do not need authentication.
  - `false` (default) Return normal URIs

Produces

- **text/plain** – CRLF-delimited list of thumbnail URIs.
- **application/xml, application/json** – *URIListDocument* of thumbnail URIs

Insert thumbnail

PUT {thumbnail-resource-resource}/(*time-code*)
Create a new thumbnail at the specified time code. If a thumbnail with the specified time code already exists it is replaced.

Accepts

- **image/png** – Image to insert

Status Codes

- **400** – Given data was not valid `image/png`

Remove all thumbnails

DELETE {thumbnail-resource-resource}
Remove all thumbnails handled by this resource.

Thumbnail handling

The following requests concern handling a specific thumbnail.

Get image representation

GET {thumbnail-resource}
Return the image representation of this thumbnail.

Produces

- **image/png** – Image of the thumbnail

Replace image representation

PUT {thumbnail-resource}
Set a new image representation for this thumbnail.

Accepts

- **image/png** – Image to insert

Status Codes

- **400** – Given data was not valid `image/png`

Remove thumbnail

DELETE {thumbnail-resource}
Remove this thumbnail.

Export thumbnail

POST {thumbnail-resource}/export

Query Parameters

- **uri** – Mandatory URI of export location of thumbnail or poster
- **format** – Optional image format of destination. E.g. `tiff`.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocuement*

16.10.11 Transcoding

Transcoding

Start an item transcode job

POST /item/ (*item-id*) **/transcode**
Starts a new job that transcode an item to a number of shapes according to the given shape tags.

Query Parameters

- **tag** – A comma-separated list of shape tags, that specify the desired output.
- **createThumbnails** –
  - `true` - Creates thumbnails according to default transcoder rules.
  - `false` (default) - No thumbnails will be created.
- **createPosters** – An optional list of *Time codes* to use for creating posters.

- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocument*

16.10.12 Item conform

New in version 4.0.

The conform resource exposes a simple way to combine media from one or more items into a new item. It is also possible to select specific parts from the input by specifying an input interval.

This could be used when you for example want to:

- Merge spanned P2 clips.
- Render a simple sequence as defined by a user.

Conforming

Start a conform job

`POST /conform`

Starts a new `CONFORM` job that creates a new item and one or more shapes that contains media according to the conform timeline.

Query Parameters

- **conformMetadata** – If metadata should be copied from the source items, according to the timeline, to the resulting item. Default: `true`.

  New in version 4.2.3.

- **sourceTag** – A comma-separated list of shape tags, that specify the shapes that should be used as inputs.
- **tag** – A comma-separated list of shape tags, that specify the desired output.
- **createThumbnails** –
  - `true` - Creates thumbnails according to default transcoder rules.
  - `false` (default) - No thumbnails will be created.
- **createPosters** – An optional list of *Time codes* to use for creating posters.
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Accepts

- **application/xml, application/json** – *ConformRequestDocument*

Produces

- **application/xml, application/json** – *JobDocument*

Role _job_write

Example: joining two clips In this example item `VX-1` and `VX-2` are the two clips that should be joined/concatenated. A shape-tag with an empty preset (here the `original` tag) is specified so that the output has the same format as the input.

```
POST /conform?tag=original
Content-Type: application/xml

<ConformRequest xmlns="http://xml.vidispine.com/schema/vidispine">
  <conform>
    <timeline>
      <segment>
        <source>
          <id>VX-1</id>
        </source>
      </segment>
      <segment>
        <source>
          <id>VX-2</id>
        </source>
      </segment>
    </timeline>
  </conform>
  <metadata>
    <timespan start="-INF" end="+INF">
      <field>
        <name>title</name>
        <value>Joined A and B</value>
      </field>
    </timespan>
  </metadata>
</ConformRequest>

<JobDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <jobId>VX-21527</jobId>
  <user>admin</user>
  <started>2013-05-14T06:56:40.868Z</started>
  <status>READY</status>
  <type>CONFORM</type>
  <priority>MEDIUM</priority>
</JobDocument>
```

16.10.13 Timeline

Timeline API is used to store and retrieve timelines in the system. A timeline is represented in the system as a combination of:

- The timeline itself (in the native format, but can be converted to other formats)
- The rendered result as a new item.
- The timeline with its constituent parts as a collection.

There is no special datatype for the timeline, instead it is stored in one or several metadata fields.

Get Information about Item Timeline

Get List of Timeline Representations

GET /item/(*id*)**/timeline**
Returns a list of timeline stored and all timeline formats that can be derived. The precision number returned is an estimation of how close the converted timeline format will match the original. The lowest number, 0, means the original timeline format, 1 means derived timeline without any loss of information compared to the original format. The highest number, 100, means straight cuts only.

Accepts

- **text/plain** – CRLF-delimited list of TabbedTuple of timeline format and precision.

Role _item_timeline_read

See also:

CRLF is used in `text/plain` representation when several values are returned, such as tuples or lists. CRLF is represented by the two bytes 0d 0a in hexadecimal notation.

See also:

TabbedTuple is used in `text/plain` representation when several values are returned, such as tuples or lists. TabbedTuples delimits each value by the tab character, `09` in hexadecimal notation. Together with `CRLF` it is used to create lists of tuples. Users should ignore any output after the last defined element in the tuple, more elements may be returned in future versions of the API.

Get Timeline Representation

GET /item/(*id*)**/timeline/**
timeline-format Returns timeline.

Produces

- ***/*** – Timeline representation. The actual MIME type depends on timeline format.

Status Codes

- **400** – Could not find the timeline identified by timeline-format.

Role _item_timeline_read

Create/Modify Timeline

PUT /item/(*id*)**/timeline/**
timeline-format Creates or updates a timeline representation for an item.

Accepts

- ***/*** – Timeline representation. The actual MIME type depends on timeline format.

Status Codes

- **200** – The timeline was created/modified successfully.

Role _item_timeline_write

Remove All Timeline Representations

DELETE /item/(*id*)**/timeline**

Removes all timeline representations.

Status Codes

- **200** – All timelines associated with the item were deleted successfully.

Role _item_timeline_write

Remove Specific Timeline Representations

DELETE /item/(*id*)**/timeline/{timeline-format}**

Removes specific timeline representation.

Accepts

- ***/*** – Timeline representation. The actual MIME type depends on timeline format.

Status Codes

- **200** – The timeline was deleted successfully.
- **400** – Could not find the timeline identified by timeline-format.

Role _item_timeline_write

16.11 JavaScript

16.11.1 Testing scripts

New in version 4.0.3.

In order to test functionality, the JavaScript engine can be called manually.

Executing JavaScript code

POST /javascript/test

Accepts

- **application/javascript , text/plain, text/javascript** – The JavaScript code

Produces

- **application/json** – The object returned by the code, in JSON format

16.11.2 JavaScript sessions

Retrieving JavaScript sessions

GET /javascript/session

Produces

- **text/plain** – A textual list of the current JavaScript sessions in Vidispine, their current status, and which port they listen to

---

Note: Multiple JavaScript debug sessions cannot share the same port. If several JavaScript sessions are started simultaneously, each is allocate the next free port. The port number can be found using the request above.

16.12 Jobs

16.12.1 Managing jobs

Create job

See *Creating jobs*.

Get list of jobs

`GET /job`
Return jobs matching the criteria given.

Query Parameters

- **jobmetadata** – Optional comma-separated list
  - *key* = *value* - Filter out only the jobs that has job metadata according to the filter criteria.

  Note that = is part of the query parameter, and has to be encoded (`%3d`).
- **metadata** –
  - `true` - Include job metadata with all jobs.
  - `false` (default) - Do not include job metadata with all jobs.
- **idonly** –
  - `true` - Only return a list of ids
  - `false` (default) - Return job information such as job status
- **starttime-from** – Optional ISO8601 timestamp. Return only jobs started after the given timestamp.
- **starttime-to** – Optional ISO8601 timestamp. Return only jobs started before the given timestamp.
- **step** –
  - `true` - Include step information in the job listing.
  - `false` (default) - Do not include step information in the job listing.

Matrix Parameters

- **type** – Optional comma-separated list of *Job types*. Default is `all`, return all jobs.
- **state** – Optional comma-separated list of *Job states*. Default is `all`, return all jobs.
- **first** – Optional integer. Return jobs from that number in the list of sorted jobs. Default is `1`, the first jobs.

- **number** – Optional integer. Return at most that number of jobs. Default is all jobs.
- **sort** – Optional list of form *field* (*asc* | *desc*)[, ...]. Sort by specific fields (see below). Replaces `sort-order`.

  New in version 4.0.1.
- **user** –
  - `true` (default) - Include only jobs created by current user
  - `false` - Include all jobs

Produces

- **application/xml, application/json** – *JobListDocument*
- **text/plain** – List of job ids

Role _job_read

Semantics

When retrieving jobs, they can be sorted on:

- `jobId`
- `type`
- `state`
- `user`
- `startTime`
- `priority`

When result is in format `text/plain`, only a *CR LF*-delimited list of job ids are returned, without subjobs or other information.

Get job information

`GET /job/` (*job-id*)
Return information about specified job.

When returning in format `text/plain`, only a string representation of the state is returned.

Query Parameters

- **metadata** –
  - `true` - Include job metadata with all jobs.
  - `false` (default) - Do not include job metadata with all jobs.

Status Codes

- **404 Not found** – Invalid id

Produces

- **application/xml, application/json** – *JobDocument*
- **text/plain** – State of job

Role _job_read

Modify job parameter

PUT /job/ (*job-id*)
Updates the job by setting job priority

Query Parameters

- **priority** – Change the job priority. Value should be one of `LOWEST`, `LOW`, `MEDIUM`, `HIGH` or `HIGHEST`.

Status Codes

- **404 Not found** – Invalid id

Role _job_write

Abort job

DELETE /job/ (*job-id*)
Does not delete the job, but aborts it.

The job is marked for abortion, but the call may return before all tasks have been killed. Hence, the status return by this call is likely to be ABORT_PENDING rather than ABORTED. Caller should poll the status of the job or use job notifications to find out when job has been fully aborted.

Query Parameters

- **reason** – Optional string, reason for cancellation.
- **cleanup** –
  - `true` (default) - Run cleanup steps before aborting.
  - `false` - Skip the cleanup steps, unless the job is already running. For READY jobs this means that the job will immediately be marked as ABORTED.

  New in version 4.2.4.

Status Codes

- **404 Not found** – Invalid id

Role _job_write

Create duplicate job

POST /job/ (*job-id*) **/re-run**
Retrieves an existing job, duplicates it and starts the duplicated version.

Changed in version 4.2.5: The job priority now defaults to the priority of the existing job. Previously the priority was always MEDIUM.

Query Parameters

- **priority** – The priority of the new job. If no priority is specified then the priority of the existing job will be used.

  New in version 4.2.5.

Status Codes

- **404 Not found** – Invalid id

Produces

- **application/xml, application/json** – *JobDocument*

Role _job_write

16.12.2 Job problem conditions

Jobs can enter the state WAITING if a recoverable problem has occurred. Depending on the problem the system might resolve itself or require manual assistance, e.g. out of storage space.

Get a list of all active job problems

GET /job/problem
Returns a list of unresolved problems, together with what jobs are waiting for them to be resolved.

Produces

- **application/xml, application/json** – *JobProblemListDocument*.

Role _job_read

Get a list of all job problems that affects a specific job

GET /job/ (*job-id*) **/ problem**
Retrieves a list of problems that affects the specified job.

Status Codes

- **404 Not found** – Invalid id

Produces

- **application/xml, application/json** – *JobProblemListDocument*

Role _job_read

16.12.3 Job states

Job states

The following states are defined for a job:

READY Job can be run, in queue.

STARTED One or several job steps are running.

FINISHED The job has finished with success.

FINISHED_WARNING The job has finished, but a non-critical step failed.

FAILED_TOTAL The job has finished, but a critical Job step has failed.

WAITING The job is waiting for a condition.

ABORT_PENDING A request to abort the job has been made.

ABORTED The job is aborted, and all job steps have finished.

Step states

The following states are defined for a job step (task):

NONE Job step has just been initialized. Normally this should not be returned.

READY Job step about to start.

STARTED Job step started, running in a transaction. (Short tasks.)

STARTED_ASYNCHRONOUS Job step started, running outside of an transaction. (Longer tasks, or tasks that cannot execute in an EJB.)

STARTED_PARALLEL Job step has started, and signals that other parallel tasks can start.

STARTED_PARALLEL_ASYNCHRONOUS Job step has started, and signals that other parallel tasks can start.

STARTED_SUBTASKS Job step has started, and will be performed in multiple subtasks.

New in version 4.0.

FINISHED Job step has finished successfully.

FAILED_RETRY Job step has failed, but will be retried.

FAILED_FATAL Job step has failed, and will not be retried.

WAITING Job step is waiting for a condition, see *Get a list of all job problems that affects a specific job* for cause.

DISAPPEARED The job worker was missing (possible cause is a restart of the application server). The job step will be re-run.

16.12.4 Job types

The following job types exists. They can also be retrieved using `GET /jobtype`.

NONE Not used.

IMPORT Not used.

PLACEHOLDER_IMPORT Regular import (using URI or file id to existing or new item).

RAW_IMPORT Import where essence is in request body.

AUTO_IMPORT Import using auto import rules.

SHAPE_IMPORT Import using URI or file id to a shape.

SIDECAR_IMPORT Import a sidecar file to an existing item.

New in version 4.0.1.

ESSENCE_VERSION Import a new essence version.

TRANSCODE Transcode of item.

TRANSCODE_RANGE Transcode of part of item.

CONFORM Conform an item sequence.

TIMELINE Conform a timeline.

THUMBNAIL Create thumbnails or posters of item.

ANALYZE. Do analysis of item.

SHAPE_UPDATE Update shape information of item.

RAW_TRANSCODE. Send transcode job directly to transcoder.

EXPORT Export item to remote location.

COPY_FILE Copy file (and keep track of new copy).

MOVE_FILE Move file.

DELETE_FILE Delete file.

LIST_ITEMS Generate item report.

Get list of job types

GET /jobtype
Get list of job types

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – list of job types

16.12.5 Job metadata

Additional job metadata can be specified using the `jobmetadata` parameter, when a job is created. Note that the equals sign is part of the value of the query parameter, so it has to be URL encoded (%3d).

Hint: Prefer to always prefix any custom job metadata by the name of your application, for example, `myApp_customSetting`, to avoid conflict with any existing or future job metadata used by Vidispine.

Reserved keys

smpteTimeCode
The first frame to be included in transcoded output.

Type String (SMPTE timecode)

lastSmpteTimeCode
The last frame to be included in transcoded output.

Type String (SMPTE timecode)

checksumMode
Can be set to `transfer` to have the checksum computed during the transfer step of the import job.

Note This will not work if the files are transferred by the transcoder.

Since 4.2.8

cerifyPriority
The priority to assign jobs created in Cerify. Either `LOW`, `MEDIUM` or `HIGH`.

Default `LOW`

Since 4.2.8

16.13 Libraries

A library can be seen as a lightweight collection that is deleted on a regular basis if it is not being used. Libraries can only contain items.

16.13.1 Managing libraries

Retrieve a list of all libraries

GET /library
Retrieves a list of the ids of all known libraries.

Matrix Parameters

- **autoRefresh** – Optional boolean value, only list libraries with the specified auto refresh status.

  New in version 4.2.3.

- **frequencyFrom** – Optional integer value, only list libraries whose update frequency is greater than it.

  New in version 4.2.3.

- **frequencyTo** – Optional boolean value, only list libraries whose update frequency is less than it.

  New in version 4.2.3.

- **updateMode** – Optional string value, only list libraries with the specified update mode.

  New in version 4.2.3.

Produces

- **application/xml, application/json** – *URIListDocument* containing the ids of all the libraries.

Role _library_read

Example

```
GET /library

<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <uri>VX*48</uri>
   <uri>VX*49</uri>
   <uri>VX*45</uri>
</URIListDocument>
```

Create a library

POST /library
Creates a library and returns the id of the created library.

Accepts

- **application/xml, application/json** – *ItemListDocument* that contains the ids of any items that should be added to the library

Produces

- **application/xml, application/json** – *URIListDocument* containing the id of the created library.

Role _library_write

Example

```
POST /library
Content-Type: application/xml

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-250"/>
   <item id="VX-1000"/>
</ItemListDocument>

<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <uri>VX*48</uri>
</URIListDocument>
```

Delete a library

DELETE /library/ (*library-id*)
Deletes the library with the specified id.

Produces

- **application/xml, application/json** – *JobDocument* containing library delete job.

Role _library_write

Example

```
DELETE /library/VX*51
```

16.13.2 Library settings

Retrieve library settings

GET /library/ (*library-id*) **/settings**
Retrieves the settings and status of a library.

Produces

- **application/xml, application/json** – *LibrarySettingsDocument*

Role _library_read

Example

```
GET /library/VX*67/settings HTTP/1.1

<LibrarySettingsDocument>
   <id>VX*67</id>
   <username>admin</username>
   <updateMode>REPLACE</updateMode>
   <autoRefresh>true</autoRefresh>
   <query>
      <field>
      <name>originalWidth</name>
      <range>
         <value>640</value>
         <value>720</value>
      </range>
      </field>
   </query>
</LibrarySettingsDocument>
```

Update library settings

New in version 4.0.3.

PUT /library/ (*library-id*) **/settings**
Update the settings of a library.

Accepts

- **application/xml, application/json** – *LibrarySettingsDocument*

Role _library_write

16.13.3 Library content

Retrieve library content

GET /library/ (*library-id*)
Returns the items together with any requested data.

Query Parameters

- **content** – See *Retrieving item information*
- **noauth-url** – Whether to return thumbnail URLs not requiring authentication. Default value is `false`
- **baseURI** – Which base URI to use for the thumbnail URLs.

Matrix Parameters

- **starttc** –
  - `true` - Interval is given relative to start timecode of item.
  - `false` (default) - Interval is 0-based.
- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.

- **number** – Integer, set a limit on maximum number of hits. Default `100`.

Produces

- **application/xml, application/json** – *ItemListDocument* containing the items together with the requested data.

Role _library_read

Example

```
GET /library/VX*48/?content=access HTTP/1.1

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-250">
      <access>
         <type>GENERIC</type>
         <permission>ALL</permission>
      </access>
      <access>
         <type>METADATA</type>
         <permission>ALL</permission>
      </access>
      <access>
         <type>ID</type>
         <permission>ALL</permission>
      </access>
      <access>
         <type>URI</type>
         <permission>ALL</permission>
      </access>
   </item>
   <item id="VX-1000">
      <access>
         <type>GENERIC</type>
         <permission>ALL</permission>
      </access>
      <access>
         <type>METADATA</type>
         <permission>ALL</permission>
      </access>
      <access>
         <type>ID</type>
         <permission>ALL</permission>
      </access>
      <access>
         <type>URI</type>
         <permission>ALL</permission>
      </access>
   </item>
</ItemListDocument>
```

Add multiple items to a library

PUT /library/ (*library-id*)
Adds all the items specified in the document to the library.

Accepts

- **application/xml, application/json** – *ItemListDocument* that contains the item ids.

Role _library_write

Example

```
PUT /library/VX*48
Content-Type: application/xml

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-1000"/>
   <item id="VX-250"/>
</ItemListDocument>

200 OK
```

Add a specific item to a library

PUT /library/ (*library-id*) **/**
item-id Adds the specified item to the library.

Role _library_write

Example

```
PUT /library/VX*48/VX-251

200 OK
```

Remove a specific item from a library

DELETE /library/ (*library-id*) **/**
item-id Removes the specified item from the library.

Role _library_write

Example

```
DELETE /library/VX*48/VX-251

200 OK
```

Modify metadata of the items in a specific library

PUT /library/ (*library-id*) **/item-metadata**
Modify metadata of the items in a specific library

Query Parameters

- **notification** – See *Notifications* . (Optional)

- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocument*

Role _library_write

16.14 License

The license resource allows you to view and update your Vidispine license. It is also the entry point to use if the system is being used as a licensing provider.

16.14.1 Version and license

Get version and license information

`GET /version`
Display your license allowance and current system usage.

Produces

- **application/xml, application/json** – *VersionDocument*

The `systemInfo` element in the response shows the MAC addresses discovered on the local system. The MAC-address(es) in the license key must match that/those of your system.

16.14.2 Slave management and monitoring

Install slave license on master node

`PUT /license/slave`

Query Parameters

- **path** – The name of the slave license file.

List all slaves

`GET /license/slave`
Returns a list of all the slave nodes connected to this master. Slaves that have not been seen for more than 180 minutes will not be available.

Produces

- **application/xml, application/json** – *SlaveListDocument*

List slave license status

GET /license/slave/ (*id*)
Returns information about the slave with the given id.

New in version 4.0.3.

Produces

- **application/xml, application/json** – *SlaveDocument*

Remove slave instance

DELETE /license/slave/ (*id*)
Removes the slave with the given id.

New in version 4.0.3.

List all installed slave licenses

GET /license/slave/license
Returns the `id` and `SlaveIdentifier` of all installed slave license on a master

Produces

- **application/xml, application/json** – *SlaveLicenseListDocument*

List installed slave licenses by id

GET /license/slave/license/{id}
Returns the detail of an installed slave license with the given id

Produces

- **application/xml, application/json** – *SlaveLicenseDocument*

Install or update slave connection string

PUT /APInoauth/license/auth-info

Accepts

- **application/xml, application/json** – *SlaveAuthInfoDocument*

Example

```
PUT /APInoauth/license/auth-info
Content-Type: application/xml

<SlaveAuthInfoDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <masterHost>http://192.168.0.1:8080/</masterHost>
  <masterHost>http://my.other.server:8080/</masterHost>
  <slaveId>your-slave-id</slaveId>
</SlaveAuthInfoDocument>
```

License validity and status can be seen from `GET /version`.

16.15 Metadata

16.15.1 Auto-projection rules

Working with automatic projection rules

Create an automatic projection rule

PUT /auto-projection/ (*name*)

Creates a new projection rule based on the information in the *AutoProjectionRuleDocument*.

Accepts

- **application/xml, application/json** – *AutoProjectionRuleDocument*

Produces

- **application/xml, application/json** – *AutoProjectionRuleDocument*

Role _auto_projection_write

Example

```
PUT /auto-projection/testProjection
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<AutoProjectionRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <step>
    <order>1</order>
    <description>step1 description</description>
    <script>...</script>
  </step>
  <step>
    <order>2</order>
    <description>step2 description</description>
    <script>...</script>
  </step>
  <description>rule description</description>
  <inputFilters>
    <inputFilter>oldMetadata</inputFilter>
    <inputFilter>shapeDocument</inputFilter>
    <bulkyMetadataKeysRegex>.*</bulkyMetadataKeysRegex>
  </inputFilters>
  <triggers>
    <trigger>itemMetadata</trigger>
    <trigger>shapeMetadata</trigger>
  </triggers>
</AutoProjectionRuleDocument>
```

Delete an automatic projection rule

DELETE /auto-projection/ (*name*)

Role _auto_projection_write

Disable an automatic projection rule

PUT /auto-projection/ (*name*) **/disable**

Role _auto_projection_write

Enable an automatic projection rule

PUT /auto-projection/ (*name*) **/enable**

Role _auto_projection_write

Retrieve all disabled automatic projection rules

GET /auto-projection/disable

Role _auto_projection_read

Retrieve all enabled automatic projection rules

GET /auto-projection/enable

Role _auto_projection_read

Retrieve all automatic projection rules

GET /auto-projection

Role _auto_projection_read

16.15.2 Bulky metadata

Bulky metadata can be used to store large amounts of timed metadata. The metadata is arranged in a key-value fashion, where the key is the quintuple (*field*, start, end, stream, channel).

The metadata is not indexed, but is typically used as a temporary container for metadata that is to be processed later, for example using *auto-projection rules*.

Managing bulky metadata

Both items and shapes can hold bulky metadata.

Insert values in bulk

PUT /item/ (*item-id*) **/metadata/bulky/**
Inserts all key-value pairs from a given document.

Accepts

- **application/xml, application/json** – *BulkyMetadataDocument*

Role _metadata_write

Example

```
PUT /item/VX-250/metadata/bulky
Content-Type: application/xml

<BulkyMetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <field start="3" end="5">
      <key>mykey</key>
      <value>This is the value of mykey for the first interval.</value>
   </field>
   <field start="5" end="9">
      <key>mykey</key>
      <value>This is the value of mykey for the second interval.</value>
   </field>
</BulkyMetadataDocument>
```

Retrieve all keys used in the bulky metadata

GET /item/ (*item-id*) **/metadata/bulky/**
Retrieves a list of all keys in the bulky metadata.

Produces

- **application/xml, application/json** – *URIListDocument*

Role _metadata_read

Read values

GET /item/ (*item-id*) **/metadata/bulky/**
key-name Retrieves all values of a certain key over a specified interval. All values for that key can be retrieved by specifying start as "-INF" and end as "+INF".

Matrix Parameters

- **start** – A *time code* that defines the start of the interval.
- **end** – A *time code* that defines the end of the interval.

Produces

- **application/xml, application/json** – *BulkyMetadataDocument*

Role _metadata_read

Example

```
GET /item/VX-123/metadata/bulky/mykey;start=-INF;end=+INF

<BulkyMetadataDocument id="VX-123" xmlns="http://xml.vidispine.com/schema/vidispine">
   <field start="3" end="5">
      <key>mykey</key>
      <value>This is the value of mykey for the first interval.</value>
   </field>
   <field start="5" end="9">
      <key>mykey</key>
      <value>This is the value of mykey for the second interval.</value>
   </field>
</BulkyMetadataDocument>
```

Insert values

PUT /item/ (*item-id*) **/metadata/bulky/**
key-name Inserts a value at the specified interval for the given key. If the key already has a value at that specific interval then that value will be overwritten.

Matrix Parameters

- **start** – A *time code* that defines the start of the interval.
- **end** – A *time code* that defines the end of the interval.

Accepts

- **text/plain** – The value to set.

Role _metadata_write

Example

```
PUT /item/VX-123/metadata/bulky/mykey;start=3;end=5
Content-Type: text/plain

This is the value of mykey for the first interval.

PUT /item/VX-123/metadata/bulky/mykey;start=5;end=9
Content-Type: text/plain

This is the value of mykey for the second interval.
```

Remove values

DELETE /item/ (*item-id*) **/metadata/bulky/**
key-name Removes all the values for a certain key over the specified interval.

Matrix Parameters

- **start** – A *time code* that defines the start of the interval.
- **end** – A *time code* that defines the end of the interval.

Role _metadata_write

16.15.3 Global metadata

Global metadata is metadata that is not associated with any item or collection. It can primarily be used as a reference, for example holding a field that is referenced from many items.

Retrieving the global metadata

GET /metadata
Retrieves the global metadata. This resource shares the same query and matrix parameters as the item metadata resource.

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _metadata_global_read

Modifying the global metadata

PUT /metadata
Modifies the global metadata. This resource shares the same query and matrix parameters as the item metadata resource.

Accepts

- **application/xml , application/json** – *MetadataDocument*

Produces

- **application/xml, application/json** – *MetadataDocument*

Retrieving metadata by UUID

GET /metadata/ (*uuid*)
Retrieves the metadata entry that matches the UUID.

Produces

- **application/xml, application/json** – *MetadataEntryDocument*

Role _metadata_global_read

Example

```
GET /metadata/c3dc7918-9316-4fef-b4fc-ff2b0149e854

<MetadataEntryDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field uuid="c3dc7918-9316-4fef-b4fc-ff2b0149e854" user="system" timestamp="2011-01-10T10:00:54.845
    <name>originalVideoCodec</name>
    <value uuid="199255d8-59ec-421e-9c7b-757c46c92b14" user="system" timestamp="2011-01-10T10:00:54.8
  </field>
</MetadataEntryDocument>

GET /metadata/199255d8-59ec-421e-9c7b-757c46c92b14

<MetadataEntryDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <value uuid="199255d8-59ec-421e-9c7b-757c46c92b14" user="system" timestamp="2011-01-10T10:00:54.845
</MetadataEntryDocument>
```

Removing metadata by UUID

DELETE /metadata/ (*uuid*)
Removes the metadata with the specified UUID.

Role _metadata_global_write

Example

```
DELETE /metadata/6fba17bb-ed52-43ab-86b7-07f5494edeed

200 OK
```

16.15.4 Document metadata

New in version 4.2.3.

Document metadata is similar to global metadata but instead of having a single, large global metadata document, it could be spread to multiple, small documents. This to reduce the size of the metadata and to improve performance.

Retrieve a list of all documents

GET /document
Retrieves the list of metadata documents.

Matrix Parameters

- **first** – Optional integer. Return documents from that number in the document list. Default is `1`.
- **number** – Optional integer. Return at most that number of documents. Default is `100`.

Produces

- **application/xml, application/json** – *DocumentListDocument*

Role _document_read

Example

```
GET /document

<?xml version="1.0" ?>
<DocumentListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <document>
        <name>producer</name>
        <uri>http://localhost:8080/API/document/producer</uri>
    </document>
    <document>
        <name>editor</name>
        <uri>http://localhost:8080/API/document/editor</uri>
    </document>
</DocumentListDocument>
```

Retrieve a document by name

GET /document/(*name*)
Retrieves the document with the specified name. This resource shares the same query and matrix parameters as the *item metadata resource*.

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _document_read

Example

```
GET /document/editor
```

```
<?xml version="1.0" ?>
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <revision>VX-20383</revision>
    <timespan end="+INF" start="-INF">
        <field change="VX-20383" timestamp="2014-11-18T10:29:45.166+01:00" user="admin" uuid="ff4898
            <name>editor_name</name>
            <value change="VX-20383" timestamp="2014-11-18T10:29:45.166+01:00" user="admin" uuid="5b
        </field>
    </timespan>
</MetadataDocument>
```

Create/modify a document

PUT /document/ (*name*)

Creates a new or modifies the existing document with the specified name.

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _document_read

Example

```
PUT /document/editor
```

```
<?xml version="1.0" encoding="UTF-8"?>
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
    <field>
      <name>editor_name</name>
      <value>Bob</value>
    </field>
  </timespan>
</MetadataDocument>
```

Response:

```
<?xml version="1.0" ?>
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <revision>VX-20424</revision>
    <timespan end="+INF" start="-INF">
        <field change="VX-20424" timestamp="2014-11-18T13:36:46.130+01:00" user="admin" uuid="6279f9
            <name>title</name>
            <value change="VX-20424" timestamp="2014-11-18T13:36:46.130+01:00" user="admin" uuid="0c
        </field>
    </timespan>
</MetadataDocument>
```

View change sets

GET /document/(*name*)**/changes**

Retrieves all change sets that have been applied to the document.

Query Parameters

- **change** – An optional parameter to retrieve a single change set.

Response Headers

- **Link** – Contains URLs to the previous, next, first and last pages.

Produces

- **application/xml, application/json** – *MetadataChangeSetDocument*

Role _document_read

Example

```
GET /document/editor/changes
```

```
<?xml version="1.0" ?>
<MetadataChangeSetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <changeSet>
        <id>VX-20381</id>
        <metadata>
            <revision>VX-20380</revision>
            <timespan end="+INF" start="-INF">
                <field change="VX-20381" timestamp="2014-11-18T10:27:31.192+01:00" user="admin" uuid=
                    <name>editor_name</name>
                    <value change="VX-20381" timestamp="2014-11-18T10:27:31.192+01:00" user="admin" u
                </field>
            </timespan>
        </metadata>
    </changeSet>
    <changeSet>
        <id>VX-20382</id>
        <metadata>
            <revision>VX-20381</revision>
            <timespan end="+INF" start="-INF">
                <field change="VX-20382" timestamp="2014-11-18T10:27:31.229+01:00" user="admin" uuid=
                    <name>editor_name</name>
                    <value change="VX-20382" timestamp="2014-11-18T10:27:31.229+01:00" user="admin" u
                </field>
            </timespan>
        </metadata>
    </changeSet>
</MetadataChangeSetDocument>
```

Remove a document

DELETE /document/(*name*)

Removes the metadata document with the specified name.

Role _document_write

16.15.5 Key-value metadata

Some resources support basic key-value metadata (not to be confused with *item metadata*). This metadata is not indexed nor is it revision controlled. The role required to use the metadata depends on the resource.

Supported resources

The resources that support key-value metadata can be seen in the table below. These are referred to as `{key-value-metadata-resource}` the the definitions below.

Resource	URI	Read role	Write role
Groups	`/group/{group-name}/metadata`	`_group_read`	`_group_write`
Users	`/user/{username}/metadata`	`_admininstrator`	`_administrator`
Storages	`/storage/{storage-id}/metadata`	`_storage_read`	`_storage_write`
Storage groups	`/storage/storage-group/{storagegroup-name}/metadata`	`_storage_group_read`	`_storage_group_write`
Metadata fields	`/metadata-field/{field-name}/metadata`	`_metadata_field_read`	`_metadata_field_write`
Metadata field groups	`/metadata-field/field-group/{group-name}/metadata`	`_metadata_field_group_read`	`_metadata_field_group_write`
Shapes	`/item/{item-id}/shape/{shape-id}/metadata`	`_shape_read`	`_shape_write`
Shape components	`/item/{item-id}/shape/{shape-id}/component/{component-id}/metadata`	`_shape_read`	`_shape_write`
Files	`/storage/{storage-id}/file/{file-id}/metadata`	`_file_read`	`_file_write`

Managing key-value metadata

Retrieving all metadata

GET {key-value-metadata-resource}
Retrieves all key-value pairs associated with the specified entity.

Produces

- **application/xml, application/json** – A *SimpleMetadataDocument* containing all key-value pairs.

Example

```
GET /user/myuser/metadata
```

```
<SimpleMetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <key>occupation</key>
    <value>developer</value>
  </field>
  <field>
    <key>location</key>
    <value>London</value>
  </field>
</SimpleMetadataDocument>
```

Setting multiple key-value pairs

PUT {key-value-metadata-resource}
Sets all the specified key-value pairs.

Accepts

- **application/xml, application/json** – *SimpleMetadataDocument*

Example

```
PUT /user/myuser/metadata
Content-Type: application/xml

<SimpleMetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <key>occupation</key>
    <value>developer</value>
  </field>
  <field>
    <key>location</key>
    <value>London</value>
  </field>
</SimpleMetadataDocument>

200 OK
```

Clearing all key-value pairs

DELETE {key-value-metadata-resource}
Clears all key-value pairs for the specified entity.

Example

```
DELETE /user/myuser/metadata

200 OK
```

Retrieving the metadata for a specific key

GET {key-value-metadata-resource}/(*key*)
Retrieves the value of a specific key.

Produces

- **text/plain** – The raw string value.

Example

```
GET /user/myuser/metadata/location

London
```

Setting the value for a specific key

PUT {key-value-metadata-resource}/(*key*)
Sets the value for a specific key.

Accepts

- **text/plain** – The raw string value.

Example

```
PUT /user/myuser/metadata/location
Content-Type: text/plain

Stockholm

200 OK
```

Delete a specific key-value pair

DELETE {key-value-metadata-resource}/(*key*)
Deletes the key-value pair with the specified key.

Example

```
DELETE /user/myuser/metadata/location

200 OK
```

16.15.6 Metadata

Get metadata for item(s)

Get metadata

GET /item/(*id*)**/metadata**
Returns the metadata set for an item.

Matrix Parameters

- **projection** – Return metadata set according to projection. Default projection is `default`.
- **interval** – Comma-separated list
  - *time-span* - Filter out metadata, return only metadata for specified *time span*.
  - `generic` - Return all non-timed metadata.
  - `all` (default) - Return all metadata, same as `interval=generic,-INF-+INF`
- **starttc** –
  - `true` - Interval is given relative to start timecode of item.
  - `false` (default) - Interval is 0-based.
- **field** – Comma-separated list.

  - *field-name* - Return specified field.
  - *field-name* ":" *new-name* - Return specified field, renamed to a new name in return value.
  - "-" *field-name* - Exclude specified field.
  - (default) - Return all fields.
- **group** – Comma-separated list.
  - *group-name* - Return specified group.
  - *group-name* + - Return specified group and subgroups.

    New in version 4.1.
  - *group-name* `:` *new-name* - Return specified group, renamed to a new name in return value.
  - `-` *group-name* - Exclude specified group.
  - (default) - Return all groups.
- **track** – Comma separated list.
  - *track-type track-number* - Return metadata for specified track. Example of track is `A2`.
  - *track-type t1 - t2* - Return metadata for specified track interval, e.g. `A2-4`.
  - *track-type* `*` - Return metadata for all tracks of specified type, e.g. `A*`.
  - `generic` - Return all non-tracked metadata.
  - `all` (default) - All metadata, with or without track specification, are returned.
- **language** – Comma separated list.
  - *language-tag* - Return metadata for specific language, e.g. `en_US`. Wildcards may be used, e.g. `*_CA` for both Canadian French and Canadian English.
  - `none` - Return all metadata without language specification.
  - `all` (default) - Return all metadata, with or without language specification.
- **conflict** –
  - `yes` (default) - Include all metadata conflicts, unresolved.
  - `no` - Return conflicts resolved according to field rules.
- **samplerate** – Convert all outgoing *time instants* to specified rate. *NB! Time codes* which cannot be expressed in an integer number of samples will be returned as a decimal number, with risk of losing precision.
- **revision** – A *change-set-id*, retrieves metadata the way it looked at the given revision.
- **terse** –
  - `yes` - Return metadata in terse format (see *Retrieve terse metadata schema*)
  - `no` (default) - Return metadata in verbose format
- **include** – A list of keys. Includes additional field specific data. See *Field metadata*. Additionally, if set to `type` the type definition of the field will be retrieved.
- **defaultValue** –
  - `true` - For unset fields, return default values. See *Default values*.
  - `false` (default) - Do not return default values.

- **from** – A timestamp value. Return metadata starting from the specific timestamp (inclusive)
- **to** – A timestamp value. Return metadata until the specific timestamp (non-inclusive)

Query Parameters

- **includeTransientMetadata** –
  - `true` (default) - Include transient metadata, see *Transient metadata*.
  - `false` - Do not include transient metadata in response.

Produces

- **application/xml, application/json** – *MetadataListDocument* or according to specified projection

Role _metadata_read

Semantics Returns the metadata set for an item, see *Identifiers*. This means all metadata change sets, combined, and then filtered according to matrix parameters. Conflicts are normally returned with all possible values. With conflict=no, a user interface may choose to receive only one value; i.e., automatic conflict resolution will be enforced. The conflict resolution is only applied to the returned XML document, not to metadata in database.

Examples

```
GET /item/VX-7888/metadata;field=audio-comments:comment;track=A3;interval=40-60;samplerate=PAL;langua

<MetadataListDocument>
    <item id="VX-7888">
        <metadata>
            <timespan start="1000/PAL" end="1250/PAL">
                <field>
                    <name>comment</name>
                    <value lang="en_US" user="joed" site="VY" timestamp="2009-10-11T11:36:30.330+02:0
                </field>
            </timespan>
            <timespan start="1250/PAL" end="1500/PAL">
                <field conflict="yes">
                    <name>comment</name>
                    <value lang="en_US" user="joed" site="VY" timestamp="2009-10-11T11:36:34.527+02:0
                    <value lang="en_US" user="bigc" site="VX" timestamp="2009-10-11T11:32:30.330+02:0
                </field>
            </timespan>
        </metadata>
    </item>
</MetadataListDocument>

GET /item/VX-7888/metadata;track=A3;interval=1000/25-1500/25;conflict=no

<MetadataListDocument>
    <metadata>
        <item id="VX-7888">
            <timespan start="1000/25" end="1250/25">
                <field>
                    <name>audio-comments</name>
                    <value lang="en_US" user="joed" site="VY" timestamp="2009-10-11T11:36:30.330+02:0
                    <value lang="sv_SE" user="karin" site="VS" timestamp="2009-10-11T14:11:14.888+02
                </field>
            </timespan>
```

```
            <timespan start="1250/25" end="1500/25">
                <field conflict="yes">
                    <name>audio-comments</name>
                    <value lang="en_US" user="joed" site="VY" timestamp="2009-10-11T11:36:34.527+02:0
                    <value lang="sv_SE" user="karin" site="VS" timestamp="2009-10-11T14:13:10.100+02
                </field>
            </timespan>
        </item>
    </metadata>
</MetadataListDocument>
```

Manipulating change sets

Add a metadata change Set

PUT /item/ (*id*) **/metadata**

Sets the metadata for an item or library.

Query Parameters

- **revision** – The known revision. If not specified, the change set will attempt to override existing change sets.

Matrix Parameters

- **projection** – Sets metadata set according to projection. Default projection is `default`
- **output-projection** – Returns metadata according to projection. Default projection is `default`

Status Codes

- **400** – Invalid input.
- **404** – Invalid id.

Accepts-xml *MetadataDocument* or according to specified projection

Produces

- **application/xml, application/json** – *MetadataDocument* or according to specified outgoing projection

Role _metadata_write

Semantics Sets the metadata for an item or library (see *Identifiers*), or, more specifically, creates a metadata change set for an item/library. The metadata change set binds to different intervals, tracks, and languages, which can be specified either in the URL or in the XML. Providing an empty timespan or an empty field will be interpreted as the removal of any existing element that matches. Fields specified by the system will not be removed by this action.

The revision can either be specified in the input XML/JSON or as a query parameter. If it is not set at all, it will attempt to override any existing values.

Moving metadata

PUT /item/ (*id*) **/metadata/move**

Query Parameters

- **start** – The new start *Time codes*
- **end** – The new end *Time codes*
- **uuid** – The UUID of the element.

Status Codes

- **400** – Invalid input.
- **404** – Invalid id.

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _metadata_write

Semantics Moves the specified field or group from one timespan to another. There are some restrictions to this operation:

1. Only top-level elements can be moved, i. e. no groups or fields that belongs to a group can be moved.
2. All conflicts for the specified element must first be resolved before moving it.
3. If moving a field, it cannot be set as sortable.
4. If moving a field, it cannot be system specified.

Example Retrieving the current metadata and checking the UUID of the top-level group element.

```
GET /item/VX-7620/metadata
```

```
<MetadataDocument>
   <timespan end="18" start="17">
      <group change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="96635ac0-
         <name>myfieldgroup</name>
         <group change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="eada60
            <name>myfieldgroup</name>
            <field change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="03a
               <name>title</name>
               <value change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="
            </field>
         </group>
      </group>
   </timespan>
</MetadataDocument>
```

Moving the top-level element to the timespan (-INF, +INF):

```
PUT /item/VX-7620/metadata/move?uuid=96635ac0-1242-496b-ae14-100de8934a2c&start=-INF&end=%2BINF
Content-Type: application/xml
```

```
<MetadataDocument>
   <timespan end="+INF" start="-INF">
      <group change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="96635ac0-
         <name>myfieldgroup</name>
         <group change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="eada60
            <name>myfieldgroup</name>
            <field change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="03a
               <name>title</name>
               <value change="VX-16293" timestamp="2010-09-07T16:41:09.045+02:00" user="admin" uuid="
```

```
            </field>
          </group>
        </group>
    </timespan>
</MetadataDocument>
```

Viewing change sets

GET /item/ (*id*) **/metadata/changes**
Retrieves all change sets that have been applied to the metadata.

Query Parameters

- **change** – An optional parameter to retrieve a single change set.

Status Codes

- **404** – Could not find the item.

Response Headers

- **Link** – Contains URLs to the previous, next, first and last pages.

Produces

- **application/xml, application/json** – *MetadataChangeSetDocument*

Role _metadata_read

Example

```
GET item/VX-250/metadata/changes
```

```
<MetadataChangeSetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <changeSet>
    <id>VX-30</id>
    <metadata>
      <revision>VX-30</revision>
      <timespan start="-INF" end="+INF">
        <field>
          <name>durationSeconds</name>
          <value user="system" timestamp="2010-03-19T09:08:09.563+01:00" change="VX-30">232.32</value
        </field>
        <field>
          <name>user</name>
          <value user="system" timestamp="2010-03-19T09:08:09.588+01:00" change="VX-30">admin</value>
        </field>
        <field>
          <name>durationTimeCode</name>
          <value user="system" timestamp="2010-03-19T09:08:09.576+01:00" change="VX-30">232320000@100
        </field>
      </timespan>
    </metadata>
  </changeSet>
  <changeSet>
    <id>VX-31</id>
    <metadata>
      <revision>VX-31</revision>
      <timespan start="-INF" end="+INF">
        <field>
```

```
          <name>title</name>
          <value user="admin" timestamp="2010-03-19T09:16:25.454+01:00" change="VX-31">u1's title</va
        </field>
      </timespan>
    </metadata>
  </changeSet>
  <changeSet>
    <id>VX-32</id>
    <metadata>
      <revision>VX-32</revision>
      <timespan start="-INF" end="+INF">
        <field>
          <name>title</name>
          <value user="admin" timestamp="2010-03-19T09:16:56.419+01:00" change="VX-32">u2's title</va
        </field>
      </timespan>
    </metadata>
  </changeSet>
  <changeSet>
    <id>VX-33</id>
    <metadata>
      <revision>VX-33</revision>
      <timespan start="-INF" end="+INF">
        <field>
          <name>title</name>
          <value user="admin" timestamp="2010-03-19T09:21:28.692+01:00" change="VX-33">u1's and u2's
        </field>
      </timespan>
    </metadata>
  </changeSet>
</MetadataChangeSetDocument>
```

Comparing change sets

New in version 4.0.

GET /item/ (*id*) **/metadata/changes/**
*changeset-id***/compareTo/previous**
GET /item/ (*id*) **/metadata/changes/**
*changeset-id***/compareTo/***from-changeset-id*

Query Parameters

- **valuesByUuid** – If `true` (default) then field values will be compared by uuid, if false then by the value itself.

Status Codes

- **404** – Could not find the item.

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _metadata_read

Semantics Retrieves a metadata document containing the differences between the item metadata as of revision `changeset-id` compared to the metadata as of revision `from-changeset-id`. The `mode` attribute is used

to indicate if a field, field group or value has been added or removed.

Note: This should be seen as a diff between the metadata as it was between the two revisions, meaning that for example fields or field groups that have been added and then removed in between will not be shown.

Example Retrieving the current metadata of the item:

```
GET item/VX-250/metadata/
```

```
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-12621">
      <metadata>
         <revision>VX-41277,VX-41278</revision>
         <timespan end="+INF" start="-INF">
            <field change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid="6
               <name>itemId</name>
               <value change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid=
            </field>
            <field change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid="04
               <name>created</name>
               <value change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid=
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Set the item title:

```
PUT /item/VX-250/metadata/
Content-Type: application/xml
```

```
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="-INF" end="+INF">
      <field>
         <name>title</name>
         <value>New title</value>
      </field>
   </timespan>
</MetadataDocument>
```

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item>
      <metadata>
         <revision>VX-41277,VX-41278,VX-41279</revision>
         <timespan end="+INF" start="-INF">
            <field change="VX-41279" timestamp="2013-04-17T15:24:00.907+02:00" user="admin" uuid="233
               <name>title</name>
                  <value change="VX-41279" timestamp="2013-04-17T15:24:00.907+02:00" user="admin" uu
            </field>
            <field change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid="6
               <name>itemId</name>
               <value change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid=
            </field>
            <field change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid="04
               <name>created</name>
               <value change="VX-41277" timestamp="2013-04-17T15:20:44.686+02:00" user="system" uuid=
            </field>
```

```
        </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Retrieving the changes since the last update:

```
GET item/VX-250/metadata/changes/VX-41279/compareTo/previous
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="-INF" end="+INF">
      <field uuid="2332c696-b3c8-4a55-9d37-437043258411" user="admin" timestamp="2013-04-17T15:24:00
         <name>title</name>
         <value uuid="dd139c76-86cf-4826-9037-892c928818d9">New title</value>
      </field>
   </timespan>
</MetadataDocument>
```

Modifying a single change set

PUT /item/ (*id*) **/metadata/changes/**
changeset-id Replaces the contents of a change set with the specified id with the metadata given in the document.

Status Codes

- **404** – Could not find the item or the change set.

Accepts-xml-json-schema application/xml , application/json A *MetadataDocument* containing the new version of the change set.

Produces

- **application/xml, application/json** – A *MetadataDocument* containing the metadata of the item.

Role _metadata_write

Example Retrieving the current metadata of the item:

```
GET item/VX-250/metadata/
```

```
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-250">
      <metadata>
         <revision>VX-15930</revision>
         <timespan end="+INF" start="-INF">
               <name>durationSeconds</name>
               <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14.1
            </field>
            <field>
               <name>durationTimeCode</name>
               <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">1411
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Inserting some metadata:

```
PUT /item/VX-250/metadata/
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan end="8" start="5">
      <field>
         <name>title</name>
         <value lang="en_US">My title!</value>
      </field>
      <field>
         <name>my_field</name>
         <value lang="en_US">4</value>
      </field>
   </timespan>
</MetadataDocument>

<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-250">
      <metadata>
         <revision>VX-15930,VX-15932</revision>
         <timespan end="+INF" start="-INF">
               <name>durationSeconds</name>
               <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14.1
            </field>
            <field>
               <name>durationTimeCode</name>
               <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14118
            </field>
         </timespan>
         <timespan end="8" start="5">
            <field>
               <name>title</name>
               <value change="VX-15932" lang="en_US" timestamp="2010-07-02T10:39:31.170+02:00" user="
            </field>
            <field>
               <name>my_field</name>
               <value change="VX-15932" lang="en_US" timestamp="2010-07-02T10:39:31.168+02:00" user="
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Modifying that change set:

```
PUT /item/VX-250/metadata/changes/VX-15932
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan end="15" start="8">
      <field>
         <name>title</name>
         <value lang="en_US">My title!</value>
      </field>
   </timespan>
</MetadataDocument>
```

```
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <revision>VX-15930,VX-15932</revision>
   <timespan end="+INF" start="-INF">
      <field>
         <name>durationSeconds</name>
         <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14.118</val
      </field>
      <field>
         <name>durationTimeCode</name>
         <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14118000@10
      </field>
      </timespan>
      <timespan end="15" start="8">
         <field>
            <name>title</name>
            <value change="VX-15932" lang="en_US" timestamp="2010-07-02T10:39:31.170+02:00" user="adm
         </field>
      </timespan>
</MetadataDocument>
```

Modifying multiple change sets

PUT /item/ (*id*) **/metadata/changes/**
Replaces the metadata in the specified change sets with the given data.

Statuscode Could not find the item or the change set.

Accepts

- **application/xml , application/json** – A *MetadataChangeSetDocument* containing the change sets that should be modified.

Produces

- **application/xml, application/json** – A *MetadataChangeSetDocument* containing a list of the modified change sets.

Role _metadata_write

Trimming change sets

New in version 4.2.5.

PUT /item/ (*id*) **/metadata/changes/trim**
PUT /item/ (*id*) **/metadata/changes/**
*changeset-id***/trim** Removes fields and values from the change set(s) that did not result in an actual change of the metadata.

Note that if all fields of a change set are removed, then the change set will also be removed.

Status Codes

- **404** – Could not find the item or the change set.

Produces

- **application/xml, application/json** – A *MetadataChangeSetDocument* containing a list of the modified change sets.

Role _metadata_write

Example Given an item with multiple change sets for the same set of fields:

```
GET /item/VX-260/metadata/changes
```

```
<MetadataChangeSetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <changeSet>
    <id>VX-816670</id>
    <metadata>
      <revision/>
      <timespan start="-INF" end="+INF">
        <field uuid="0e6bb918-090a-4388-9a55-e039a0462a20" user="admin" timestamp="2015-02-19T18:24:5
          <name>title</name>
          <value uuid="9b2b24a5-9426-4f10-a37c-6ec0de90b07e" user="admin" timestamp="2015-02-19T18:24
        </field>
      </timespan>
    </metadata>
  </changeSet>
  <changeSet>
    <id>VX-816671</id>
      <metadata>
        <revision>VX-816669,VX-816670,VX-816668</revision>
        <timespan start="-INF" end="+INF">
          <field uuid="0e6bb918-090a-4388-9a55-e039a0462a20" user="admin" timestamp="2015-02-19T18:24
            <name>title</name>
            <value uuid="b7d9a4ad-a564-4d03-abf5-280f5ad69658" user="admin" timestamp="2015-02-19T18
          </field>
        <field uuid="ea7a2b4a-c105-4cb0-a55b-dc0aa9457e82" user="admin" timestamp="2015-02-19T18:24:5
          <name>created</name>
          <value uuid="35f3b25c-c4ca-48e7-865b-2918fa1d33e0" user="admin" timestamp="2015-02-19T18:24
        </field>
        <field uuid="452c038e-b7c8-4076-be40-43210b07c004" user="admin" timestamp="2015-02-19T18:24:5
          <name>mediaType</name>
          <value uuid="018a0d40-6a0b-4238-b37f-d20dd9720d3a" user="admin" timestamp="2015-02-19T18:24
        </field>
        <field uuid="57e830d5-e06c-47bd-9495-e0f5d78e0a99" user="admin" timestamp="2015-02-19T18:24:5
          <name>itemId</name>
          <value uuid="5f1add70-1ff6-445f-a72d-e80e7734d399" user="admin" timestamp="2015-02-19T18:24
        </field>
        <field uuid="1e941d0a-8091-4a11-b83e-09ca2bffd51d" user="admin" timestamp="2015-02-19T18:24:5
          <name>user</name>
          <value uuid="16ef4003-7ac2-4c56-bcbf-9b646aba86b2" user="admin" timestamp="2015-02-19T18:24
        </field>
        <field uuid="66efebb4-fbb3-4b7a-8cac-fbb4f68e28e8" user="admin" timestamp="2015-02-19T18:24:5
          <name>shapeTag</name>
          <value uuid="6402586c-a9dc-45f7-a676-b133fc38e7b3" user="admin" timestamp="2015-02-19T18:24
        </field>
      </timespan>
    </metadata>
  </changeSet>
</MetadataChangeSetDocument>
```

Trimming the change sets will then cause fields where the values are unchanged to be removed.

```
PUT /item/VX-260/metadata/changes/trim
```

```
<MetadataChangeSetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <changeSet>
    <id>VX-816670</id>
    <metadata>
      <revision/>
      <timespan start="-INF" end="+INF">
        <field uuid="0e6bb918-090a-4388-9a55-e039a0462a20" user="admin" timestamp="2015-02-19T18:24:5
          <name>title</name>
          <value uuid="9b2b24a5-9426-4f10-a37c-6ec0de90b07e" user="admin" timestamp="2015-02-19T18:24
        </field>
      </timespan>
    </metadata>
  </changeSet>
  <changeSet>
    <id>VX-816671</id>
    <metadata>
      <revision>VX-816670</revision>
      <timespan start="-INF" end="+INF">
        <field uuid="0e6bb918-090a-4388-9a55-e039a0462a20" user="admin" timestamp="2015-02-19T18:24:5
          <name>title</name>
          <value uuid="b7d9a4ad-a564-4d03-abf5-280f5ad69658" user="admin" timestamp="2015-02-19T18:24
        </field>
      </timespan>
    </metadata>
  </changeSet>
```

Deleting a change set

DELETE /item/ (*id*) **/metadata/changes/**
changeset-id Deletes an entire change set.

Status Codes

- **404** – Could not find the item or the change set.

Produces

- **application/xml, application/json** – A *MetadataDocument* containing the metadata of the item.

Role _metadata_write

Example Retrieving the current metadata:

```
GET /item/VX-250/metadata
```

```
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <item id="VX-250">
      <metadata>
         <revision>VX-15930,VX-15932</revision>
         <timespan end="+INF" start="-INF">
               <name>durationSeconds</name>
               <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14.1
            </field>
            <field>
               <name>durationTimeCode</name>
               <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14118
```

```
            </field>
         </timespan>
         <timespan end="8" start="5">
            <field>
               <name>title</name>
               <value change="VX-15932" lang="en_US" timestamp="2010-07-02T10:39:31.170+02:00" user="
            </field>
            <field>
               <name>my_field</name>
               <value change="VX-15932" lang="en_US" timestamp="2010-07-02T10:39:31.168+02:00" user="
            </field>
         </timespan>
      </metadata>
   </item>
</MetadataListDocument>
```

Deleting the change set "VX-15932":

```
DELETE /item/VX-250/metadata/changes/VX-15932

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <revision>VX-15930</revision>
   <timespan end="+INF" start="-INF">
      <field>
         <name>durationSeconds</name>
         <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14.118</val
      </field>
      <field>
         <name>durationTimeCode</name>
         <value change="VX-15930" timestamp="2010-07-02T10:36:20.317+02:00" user="system">14118000@10
      </field>
      </timespan>
</MetadataDocument>
```

Modifying metadata using metadata entries

New in version 4.1.

Metadata can also be modified using a *MetadataEntryDocument* or a *MetadataEntryListDocument*. They reference existing fields/groups/values with UUID.

Modify a metadata entry

PUT / (*entity-type*) /
*entity-id***/metadata/entry/***entry-uuid*

Accepts

- **application/xml , application/json** – *MetadataEntryDocument*

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _metadata_write

Example Assume we have item VX-10 with the following metadata:

```
<MetadataListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item id="VX-10">
    <metadata>
      <revision>VX-110,VX-109,VX-148</revision>
      <timespan end="+INF" start="-INF">
        <field change="VX-109" timestamp="2013-11-12T09:39:54.767+01:00" user="system" uuid="3151464
          <name>created</name>
          <value change="VX-109" timestamp="2013-11-12T09:39:54.767+01:00" user="system" uuid="afeb8
        </field>
        <field change="VX-109" timestamp="2013-11-12T09:39:54.767+01:00" user="system" uuid="5ba7c8f
          <name>itemId</name>
          <value change="VX-109" timestamp="2013-11-12T09:39:54.767+01:00" user="system" uuid="01934
        </field>
        <field change="VX-148" timestamp="2013-11-13T12:13:12.160+01:00" user="admin" uuid="fd59a9f0
          <name>title</name>
          <value change="VX-148" timestamp="2013-11-13T12:13:12.160+01:00" user="admin" uuid="17d6ba
        </field>
        <field change="VX-148" timestamp="2013-11-13T12:13:12.160+01:00" user="admin" uuid="e2e964d4
          <name>item_tags</name>
          <value change="VX-148" timestamp="2013-11-13T12:13:12.160+01:00" user="admin" uuid="455880
          <value change="VX-148" timestamp="2013-11-13T12:13:12.160+01:00" user="admin" uuid="a1054ba
        </field>
      </timespan>
    </metadata>
  </item>
</MetadataListDocument>
```

And we want to change the title of this item's metadata. Note that the UUID of the title value is `17d6bac2-56c4-4117-b0dd-da474912bc3c`. We can then make the following request;

```
PUT /item/VX-10/metadata/entry/17d6bac2-56c4-4117-b0dd-da474912bc3c
Content-Type: application/xml

<MetadataEntryDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <value>my item's new title</value>
</MetadataEntryDocument>
```

If we instead want to replace the values in the `item_tags` field, we can make the following request:

```
PUT /item/VX-10/metadata/entry/e2e964d4-5376-47f0-83dd-f4e3663181d8
Content-Type: application/xml

<MetadataEntryDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>item_tags</name>
    <value>new tag 1</value>
    <value>new tag 2</value>
  </field>
</MetadataEntryDocument>
```

This works in a similar fashion for field groups too.

Modify several metadata entries in one request

Several entries can be modified at once using a *MetadataEntryListDocument*.

PUT / (*entity-type*) **/**
*entity-id***/metadata/entry/**

Accepts

- **application/xml , application/json** – *MetadataEntryListDocument*

Produces

- **application/xml, application/json** – *MetadataDocument*

Role _metadata_write

Example The above changes could be made in one request in the following way:

```
PUT /item/VX-10/metadata/entry
Content-Type: application/xml

<MetadataEntryListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <entry uuid="17d6bac2-56c4-4117-b0dd-da474912bc3c">
    <value>my item's new title</value>
  </entry>
  <entry uuid="e2e964d4-5376-47f0-83dd-f4e3663181d8">
    <field>
      <name>item_tags</name>
      <value>new tag 1</value>
      <value>new tag 2</value>
    </field>
  </entry>
</MetadataEntryListDocument>
```

16.15.7 Re-indexing metadata

The text index can be fully reindexed without disturbing production. The reindexing process also handles application server restarts, and can be monitored. Normally, reindexing is only needed if the metadata field definition are changed, but it can be a good idea to reindex if the database is moved or if upgrading to a newer version of Vidispine.

Requesting a reindex

PUT /reindex/ (*index*)
Starts a reindex. If a reindex of the same type (item/collection/ACL/file) is already in progress, it is restarted.

Note: Only files that do *not* belong to an item will be indexed when reindexing files. To reindex all files both a file and item reindex must be started.

Produces

- **application/xml, application/json** – XML/JSON, schema *ReindexDocument*

Retrieving reindex information

GET /reindex/ (*index*)
Gets information about a reindex process, i.e., progress and whether it is finished.

Note: The number of indexes returned in the `GET` command is only an estimate.

Controlling index of items/collections

If the metadata field `solr-index` of an item/collection is set to `false`, it won't be indexed.

Example

```
<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan end="+INF" start="-INF">
      <field>
         <name>solr-index</name>
         <value>false</value>
      </field>
   </timespan>
</MetadataDocument>
```

16.15.8 Metadata locks

A locking container is a stateful resource that holds locks for any number of fields of the metadata of an item.

Get all containers

GET /item/ (*id*) **/metadata-lock**
Returns all locking containers.

Produces

- **application/xml, application/json** – *MetadataLockListDocument*
- **text/plain** – CRLF-delimited list of locking ids

Role _metadata_lock_read

Get specific container

GET /item/ (*id*) **/metadata-lock/**
lock-id Returns information about specified locking container.

Produces

- **application/xml, application/json** – *MetadataLockDocument*

Role _metadata_lock_read

Create locking container

POST /item/ (*id*) **/metadata-lock**
Creates a new locking container, optionally with initial locks.

Query Parameters

- **field** – Optional comma-separated list of fields to lock.

- **timeout** – Optional integer for time-out in seconds. Default is no time-out.

Produces

- **application/xml, application/json** – *MetadataLockDocument*
- **text/plain** – Locking id

Role _metadata_lock_write

Add fields to locking container

PUT /item/ (*id*) **/metadata-lock/**
lock-id Add new fields to the locking container and/or updates the expiry time.

Query Parameters

- **field** – Optional comma-separated list of fields to lock.
- **timeout** – Optional integer for time-out in seconds. Default is no time-out.

Produces

- **application/xml, application/json** – *MetadataLockDocument*
- **text/plain** – Locking id

Role _metadata_lock_write

Remove locking container and locks

DELETE /item/ (*id*) **/metadata-lock/**
lock-id Remove the locking container and all locks associated with it.

Role _metadata_lock_write

16.15.9 Metadata fields

A metadata field is an ingredient of definition of the metadata set. Metadata fields define name and *type* of fields. Metadata fields can be organized into *groups of fields*. Furthermore fields can also be assigned *additional data*.

Access to fields can be restricted using *access controls*.

Managing metadata fields

Get list of fields

GET /metadata-field
Returns a list of all defined fields. See *Field identifiers*.

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Role _metadata_field_read

Get field definition

GET /metadata-field/ (*field-name*)
Returns information about a specific metadata field definition.

Status Codes

- **404 Not found** – The specified field could not be found.

Produces

- **application/xml, application/json** – *MetadataFieldDocument*

Role _metadata_field_read

Create or update field definition

PUT /metadata-field/ (*field-name*)
Creates or updates a metadata field definition.

Status Codes

- **400 Bad request** – Either the *MetadataFieldDocument* was not specified correctly or an illegal type was given.

Accepts

- **application/xml, application/json** – *MetadataFieldDocument*

Produces

- **application/xml, application/json** – *MetadataFieldDocument*

Role _metadata_field_write

Remove field definition

DELETE /metadata-field/ (*field-name*)
Removes the metadata field definition. Note that this action may invalidate existing metadata.

Status Codes

- **200 OK** – The field was deleted successfully.
- **404 Not found** – The field could not be found.

Role _metadata_field_write

Field metadata

Metadata fields can be assigned additional data in a key-value fashion. This data can later be seen when retrieving metadata, using the include parameter in *Get metadata*.

Deprecated since version 4.1.2: Use the *Key-value metadata* interface instead.

Terse metadata schema

Retrieve terse metadata schema

GET /metadata-field/terse-schema
Retrieves the schema that defines terse metadata (see *Metadata*). This schema is dynamically generated based on the fields present in the system.

Produces

- **application/xml** – An XML schema.

Role _metadata_field_read

16.15.10 Metadata field access controls

The base path, referred to as `{field-access-resource}` below, is one of the following, depending on if a group or a field is being modified.

- `/metadata-field/{field-name}/access`, or
- `/metadata-field/field-group/{group-name}/access`

Managing metadata field access controls

Retrieve the access control list of an item

GET {field-access-resource}
Returns the access control list that is applied to the specified field or group.

Produces

- **application/xml, application/json** – *MetadataFieldAccessControlListDocument*

Role _administrator

Example

```
GET /metadata-field/title/access
```

```
<MetadataFieldAccessControlListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <access>
    <id>VX-10</id>
    <field>title</field>
    <group>mygroup</group>
    <permission>READ</permission>
  </access>
  <access>
    <id>VX-5</id>
    <field>title</field>
    <user>myuser</user>
    <permission>DELETE</permission>
  </access>
</MetadataFieldAccessControlListDocument>
```

Add an access control entry

POST {field-access-resource}
Creates an entry in the access control list and returns the created entry together with its id.

Accepts

- **application/xml, application/json** – *MetadataFieldAccessControlDocument*

Produces

- **application/xml, application/json** – *MetadataFieldAccessControlDocument*

Role _administrator

Examples

```
POST /metadata-field/title/access
Content-Type: application/xml

<MetadataFieldAccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <user>admin</user>
    <permission>DELETE</permission>
</MetadataFieldAccessControlDocument>

<MetadataFieldAccessControlDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <id>VX-11</id>
    <user>admin</user>
    <permission>DELETE</permission>
</MetadataFieldAccessControlDocument>
```

Remove an access control entry

DELETE {field-access-resource}/(*access-id*)
Removes the access control entry with the specified id.

Role _administrator

Examples

```
DELETE /metadata-field/title/access/VX-11

200 OK
```

16.15.11 Metadata field groups

Field groups are named sets of *fields* and groups. The structure of groups is defined using a *metadata schema*.

Access to field groups can be restricted using *access controls*.

Managing field groups

Get a list of known groups

GET /metadata-field/field-group
Retrieves all metadata field groups known by the system.

Query Parameters

- **content** –
  - `true` - Return the groups and their members.
  - `false` (default) - Return the group names only.
- **traverse** –
  - `true` - Traverse any sub-groups in order to retrieve the entire hierarchy.
  - `false` (default) - Only retrieves the names of the members.
- **data** – An optional comma-separated list of any additional data to include.

Produces

- **application/xml, application/json** – *MetadataFieldGroupListDocument*

Role _metadata_field_group_read

Create a new field group

PUT /metadata-field/field-group/ (*group-name*)
Creates a new group with the given name. If a group with that name already exists, this operation does nothing.

Status Codes

- **200 OK** – Group created successfully.

Role _metadata_field_group_write

Create a new group and add fields and access to it

PUT /metadata-field/field-group/ (*group-name*)
Creates a new group with the given name, if it does not already exists, and adds any specified fields and access control entries to it. If the fields does not exist, they will be created. Furthermore any additional data for the fields will be set as well.

Status Codes

- **200 OK** – Group created successfully.

Accepts

- **application/xml, application/json** – *MetadataFieldGroupDocument*

Role _metadata_field_group_write

Example

```
PUT /metadata-field/field-group/myfieldgroup
Content-Type: application/xml

<MetadataFieldGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <data>
    <key>myextradata</key>
    <value>Extradata for the group</value>
  </data>
  <field>
    <name>title</name>
```

```
    <data>
      <key>text</key>
      <value>Here is some text.</value>
    </data>
  </field>
  <field>
    <name>durationSeconds</name>
  </field>
  <field>
    <name>this_field_does_not_exist_yet</name>
    <type>string</type>
    <data>
      <key>myextradata</key>
      <value>Some additional data</value>
    </data>
  </field>
  <access>
    <user>admin</user>
    <permission>DELETE</permission>
  </access>
</MetadataFieldGroupDocument>

200 OK
```

Delete an existing group

Syntax
DELETE /metadata-field/field-group/ (*group-name*)

Status Codes

- **200 OK** – Group deleted successfully.
- **404 Not found** – No group with that name exists.

Role _metadata_field_group_write

Semantics Deletes the group with the given name.

Group contents

Retrieving the fields of a group

GET /metadata-field/field-group/ (*group-name*)
Retrieves the specified field group.

Query Parameters

- **traverse** –
  - `true` - Traverse any sub-groups in order to retrieve the entire hierarchy.
  - `false` (default) - Only retrieves the names of the members.
- **data** – An optional comma-separated list of any additional data to include.

Produces

- **application/xml, application/json** – *MetadataFieldGroupDocument*

Role _metadata_field_group_read

Adding a field to a group

PUT /metadata-field/field-group/(*group-name*)**/**
field-name Adds the field with the specified name to the group. If the field is already contained within the group this operation does nothing.

Status Codes

- **200 OK** – Field added successfully.

Role _metadata_field_group_write

Removing a field from a group

DELETE /metadata-field/field-group/(*group-name*)**/**
field-name Removes the field with the specified name from the group.

Status Codes

- **200 OK** – Field removed successfully.
- **404 Not found** – No field with that name is contained within the group.

Role _metadata_field_group_write

Adding a group to a group

PUT /metadata-field/field-group/(*parent-group-name*)**/group/**
child-group-name Adds the group with the specified name to the group. If the group is already contained within the group this operation does nothing.

Status Codes

- **200 OK** – Group added successfully.

Role _metadata_field_group_write

Removing a group from a group

DELETE /metadata-field/field-group/(*group-name*)**/group/**
field-name Removes the group with the specified name from the group.

Status Codes

- **200 OK** – Group removed successfully.

Role _metadata_field_group_write

Searching for field groups

Searching for groups used in metadata

PUT /metadata-field/field-group

Query Parameters

- **traverse** –
  - `true` - Traverse any sub-groups in order to retrieve the entire hierarchy.
  - `false` (default) - Only retrieves the names of the members.
- **data** – An optional comma-separated list of any additional data to include.
- **group** – Optional comma-separated list of group names to restrict search in.
- **includeValue** –
  - `true` - The value is included in the result. I.e., how the group is specified in the metadata.
  - `false` (default) - The value is not included.
- **includeDefinition** –
  - `true` - The definition of the group is included in the result.
  - `false` (default) - The definition is not included.
- **includeSource** –
  - `true` - Information about which entity that contains the matching metadata group is included in the result.
  - `false` (default) - Entity information is not included.

Matrix Parameters

- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.

Accepts

- **application/xml, application/json** – *MetadataFieldGroupSearchDocument*

Produces

- **application/xml, application/json** – *MetadataFieldResultDocument*

Role _item_search

Semantics Much like *searching for items*, specific fields can be used when searching. The result is a list of used metadata groups that matches the query. Optionally the definition of the group and the value of the group can be retrieved.

Note: Results will only be returned if *field group indexing* has not been disabled.

Example Searching for employees named Andrew (please note that the parameter group is set to employee to only search for employees named Andrew):

```
PUT /metadata-field/field-group?includeValue=true&includeDefinition=true&traverse=false&group=employe
Content-Type: application/xml

<MetadataFieldGroupSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>example_name</name>
    <value>Andrew</value>
  </field>
</MetadataFieldGroupSearchDocument>

<MetadataFieldResultDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <hits>1</hits>
  <group name="employee" uuid="db26c542-3507-4d3c-a772-55d4627b3d59" start="-INF" end="+INF">
    <value uuid="db26c542-3507-4d3c-a772-55d4627b3d59" user="admin" timestamp="2011-01-10T12:30:01.48
      <name>employee</name>
      <field uuid="82738de5-8ce3-4f28-badc-c97924bb5837" user="admin" timestamp="2011-01-10T12:30:01
        <name>example_title</name>
        <value uuid="552f5d06-50d5-4109-9017-8b8ce7d101ff" user="admin" timestamp="2011-01-10T12:30:0
      </field>
      <field uuid="9ff7fced-4500-4d11-a8e9-eb8821b42cbc" user="admin" timestamp="2011-01-10T12:30:01
        <name>example_name</name>
        <value uuid="45379c11-b30a-4b6c-a93a-eb5229a61905" user="admin" timestamp="2011-01-10T12:30:0
      </field>
    </value>
    <definition>
      <name>employee</name>
      <schema min="0" max="-1" name="employee"/>
      <field sortable="false">
        <name>example_title</name>
        <schema reference="false" min="0" max="1" name="example_title"/>
        <type>string</type>
      </field>
      <field sortable="false">
        <name>example_name</name>
        <schema reference="false" min="1" max="1" name="example_name"/>
        <type>string</type>
      </field>
    </definition>
    <source>
      <id>VX-15</id>
      <type>item</type>
    </source>
  </group>
</MetadataFieldResultDocument>
```

16.15.12 Metadata migrations

Managing migrations

List all existing migrations

GET /metadata/migration
Lists all metadata migrations defined in the system.

Role _metadata_read

Produces

- **application/xml, application/json** – *MetadataMigrationListDocument*

Define a new metadata migration

POST /metadata/migration
Creates a new metadata migration.

Role _metadata_write

Accepts

- **application/xml, application/json** – *MetadataMigrationDocument*

Produces

- **text/plain** –

View a single migration

GET /metadata/migration/{id}
Shows a single metadata migration.

Role _metadata_read

Produces

- **application/xml, application/json** – *MetadataMigrationDocument*

16.15.13 Metadata projections

Get information about projections

Get list of projections

GET /projection
Returns a list of all defined projections.

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – CRLF-delimited list of ids or URLs

Role _projection_read

Get outgoing projection

GET /projection/ (*projection-id*) **/outgoing**
Returns the projection use to transform information *from* the Vidispine API, `GET metadata`.

Status Codes

- **404 Not found** – Could not find the projection identified by `projection-id`.

Produces

- **application/xml** – XML, XSLT stylesheet

Role _projection_read

Get incoming projection

GET /projection/ (*projection-id*) **/incoming**
Returns the projection use to transform information *to* the Vidispine API, `PUT metadata`.

Status Codes

- **404 Not found** – Could not find the projection identified by `projection-id`.

Produces

- **application/xml** – XML, XSLT stylesheet

Role _projection_read

Create/modify/delete projections

Note: Please note that the projection result must be an valid XML document.

Create projection/set outgoing projection

PUT /projection/ (*projection-id*) **/outgoing**
Creates a new projection if not defined earlier, and sets the outgoing projection to the specified stylesheet. If a new projection is created, the incoming transformation is set to be the identity transform.

Accepts

- **application/xml** – XML, XSLT stylesheet

Produces

- **application/xml** – XML, XSLT stylesheet

Role _projection_write

Create projection/set incoming projection

PUT /projection/ (*projection-id*) **/incoming**
Creates a new projection if not defined earlier, and sets the incoming projection to the specified stylesheet. If a new projection is created, the outgoing transformation is set to be the identity transform.

Accepts

- **application/xml** – XML, XSLT stylesheet

Produces

- **application/xml** – XML, XSLT stylesheet

Role _projection_write

Remove projection

DELETE /projection/ (*projection-id*)
Removes the projection.

Status Codes

- **200 OK** – The projection was deleted successfully.
- **404 Not found** – Could not find the projection identified by `projection-id`.

Role _projection_write

16.15.14 Metadata schema

A metadata schema can be used to enforce a particular data model in the metadata. A such restriction can say that the *field group* "goal" should contain exactly one *field* "goal_time" and one or more references to the group "player".

See *Defining a metadata schema* and *Alternate way of creating a schema* for an example on how to create a metadata schema.

Managing the metadata schema

Retrieve the schema

GET /metadata-schema
Retrieves the full metadata schema.

Produces

- **application/xml, application/json** – *MetadataSchemaDocument*

Role _metadata_schema_read

Example

```
GET /metadata-schema
```

```
<MetadataSchemaDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <group min="0" max="-1" name="organization">
    <group reference="false" min="1" max="-1" name="employee"/>
    <group reference="false" min="0" max="-1" name="project"/>
    <field reference="false" min="1" max="1" name="example_name"/>
  </group>
  <group min="0" max="0" name="project">
    <group reference="true" min="1" max="-1" name="employee"/>
    <field reference="false" min="1" max="1" name="example_name"/>
    <field reference="false" min="1" max="1" name="example_location"/>
  </group>
  <group min="0" max="0" name="employee">
    <field reference="false" min="1" max="1" name="example_name"/>
    <field reference="false" min="0" max="1" name="example_title"/>
  </group>
</MetadataSchemaDocument>
```

Update the schema

PUT /metadata-schema
Updates the schema with the given document.

Accepts

- **application/xml, application/json** – *MetadataSchemaDocument*

Role _metadata_schema_write

Example

```
PUT /metadata-schema
Content-Type: application/xml

<MetadataSchemaDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <!-- The organization is optional and can exist [0,n] outside of groups -->
    <group name="organization" min="0" max="-1">
        <!-- An organization has one or more employees -->
        <group name="employee" min="1" max="-1" reference="false"/>
        <!-- An organization has one or more projects -->
        <group name="project" min="0" max="-1" reference="false"/>
        <!-- An organization has exactly one name -->
        <field name="example_name" min="1" max="1" reference="false"/>
    </group>

    <!-- A project cannot exist outside of a group -->
    <group name="project" min="0" max="0">
        <!-- A project has at least one employee, which has to be referenced -->
        <group name="employee" min="1" max="-1" reference="true"/>
        <!-- A project has exactly one name -->
        <field name="example_name" min="1" max="1" reference="false"/>
        <!-- A project has exactly one location element (it still can have more than one value) -->
        <field name="example_location" min="1" max="1" reference="false"/>
    </group>

    <!-- An employee cannot exist outside of a group -->
    <group name="employee" min="0" max="0">
        <!-- An employee has exactly one name -->
        <field name="example_name" min="1" max="1" reference="false"/>
        <!-- An employee might have a title -->
        <field name="example_title" min="0" max="1" reference="false"/>
    </group>
</MetadataSchemaDocument>
```

Remove the schema

DELETE /metadata-schema
Clears the schema, causing no validation to be made.

Role _metadata_schema_write

Example

```
DELETE /metadata-schema
```

```
200 OK
```

Groups in the schema

Retrieve a group from the schema

GET /metadata-schema/ (*group-name*)
Retrieves the schema for a particular group.

Produces

- **application/xml, application/json** – *MetadataSchemaGroupDocument*

Role _metadata_schema_read

Example

```
GET /metadata-schema/project
```

```
<MetadataSchemaGroupDocument xmlns="http://xml.vidispine.com/schema/vidispine" min="0" max="0" name="
  <group reference="true" min="1" max="-1" name="employee"/>
  <field reference="false" min="1" max="1" name="example_name"/>
  <field reference="false" min="1" max="1" name="example_location"/>
</MetadataSchemaGroupDocument>
```

Update a particular group in the schema

PUT /metadata-schema/ (*group-name*)
Updates the specified group in the schema

Accepts

- **application/xml, application/json** – *MetadataSchemaGroupDocument*

Role _metadata_schema_write

Example

```
PUT /metadata-schema/employee
```

```
200 OK
```

Remove a group from the schema

DELETE /metadata-schema/ (*group-name*)
Removes the group from the schema.

Role _metadata_schema_write

Example

```
DELETE /metadata-schema/employee
```

```
200 OK
```

16.15.15 TTML

New in version 4.1.

Vidispine is able to produce TTML files from given subtitle metadata on items.

Exporting TTML

Export to TTML

GET /item/ (*id*) **/metadata/export/ttml**

Matrix Parameters

- **interval** – A list of *Time span* of subtitle metadata to export. Defaults to `all`, meaning all subtitles.

Role _metadata_read

New in version 4.1.2: An optional offset can be applied to the time span by adding ":" and the offset, see example below.

Note: The output TTML file obeys EBU-TT (http://tech.ebu.ch/ebu-tt) standard (EBU Tech 3360 (http://tech.ebu.ch/webdav/site/tech/shared/tech/tech3360.pdf))

Example Firstly, import an STL file as a *sidecar* file

```
POST /import/sidecar/{item-id}?sidecar=subtitle.stl
```

Then export the STL metadata to TTML:

```
GET /item/{id}/metadata/export/ttml
```

Example result:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<tt xmlns:ns2="http://www.w3.org/ns/ttml#styling" xmlns="http://www.w3.org/ns/ttml" xmlns:ns4="http:/
  <head>
    <metadata>
      <ns6:documentMetadata>
        <ns6:documentTargetAspectRatio>4:3</ns6:documentTargetAspectRatio>
        <ns6:documentTotalNumberOfSubtitles>11</ns6:documentTotalNumberOfSubtitles>
        <ns6:documentMaximumNumberOfDisplayableCharacterInAnyRow>40</ns6:documentMaximumNumberOfDispl
        <ns6:documentStartOfProgramme>00:00:00:00</ns6:documentStartOfProgramme>
        <ns6:documentCountryOfOrigin>GB</ns6:documentCountryOfOrigin>
        <ns6:documentPublisher>Institut fuer Rundfunktechnik   </ns6:documentPublisher>
      </ns6:documentMetadata>
    </metadata>
    <styling>
      <style xml:id="textCenter" ns2:textAlign="center"/>
      <style xml:id="defaultStyle" ns2:fontFamily="monospaceSansSerif" ns2:fontSize="1c 1c" ns2:lineH
      <style xml:id="whiteOnblackDH" ns2:fontSize="1c 2c" ns2:color="white" ns2:backgroundColor="blac
    </styling>
    <layout>
      <region xml:id="bottom" ns2:origin="10% 10%" ns2:extent="80% 80%" ns2:displayAlign="after" ns2
      <region xml:id="top" ns2:origin="10% 10%" ns2:extent="80% 80%" ns2:displayAlign="before" ns2:pa
    </layout>
```

```
</head>
<body>
  <div xml:id="SGN1" style="defaultStyle">
    <p region="top" style="textCenter" begin="00:00:00:00" end="00:00:02:10">
      <br/>
      <span style="whiteOnblackDH">two-line</span>
      <br/>
      <span style="whiteOnblackDH">top</span>
    </p>
    <p region="top" style="textCenter" begin="00:00:02:14" end="00:00:04:21">
      <br/>
      <span style="whiteOnblackDH">one-line top</span>
    </p>
    <p region="bottom" style="textCenter" begin="00:00:05:00" end="00:00:07:05">
      <span style="whiteOnblackDH">two-line</span>
      <br/>
      <span style="whiteOnblackDH">centre</span>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
    </p>
    <p region="bottom" style="textCenter" begin="00:00:07:09" end="00:00:10:19">
      <span style="whiteOnblackDH">one-line centre</span>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
      <br/>
    </p>
    <p region="bottom" style="textCenter" begin="00:00:14:06" end="00:00:17:10">
      <span style="whiteOnblackDH">two-line</span>
      <br/>
      <span style="whiteOnblackDH">bottom</span>
    </p>
    <p region="bottom" style="textCenter" begin="00:00:10:23" end="00:00:14:02">
      <span style="whiteOnblackDH">three-line</span>
      <br/>
      <span style="whiteOnblackDH">subtitle</span>
      <br/>
      <span style="whiteOnblackDH">bottom</span>
    </p>
    <p region="bottom" style="textCenter" begin="00:00:17:14" end="00:00:19:19">
      <span style="whiteOnblackDH">one-line bottom</span>
    </p>
    <p region="bottom" style="textCenter" begin="00:00:20:23" end="00:00:23:24">
      <span style="whiteOnblackDH">two-line subtitle</span>
```

```
        <br/>
        <span style="whiteOnblackDH">on row 16</span>
        <br/>
        <br/>
        <br/>
        <br/>
      </p>
      <p region="bottom" style="textCenter" begin="00:00:23:07" end="00:00:25:12">
        <span style="whiteOnblackDH">one-line row 18</span>
        <br/>
        <br/>
        <br/>
        <br/>
      </p>
      <p region="top" style="textCenter" begin="00:00:26:12" end="00:00:29:10">
        <br/>
        <br/>
        <br/>
        <br/>
        <br/>
        <span style="whiteOnblackDH">two-line subtitle</span>
        <br/>
        <span style="whiteOnblackDH">on row 5</span>
      </p>
      <p region="top" style="textCenter" begin="00:00:28:21" end="00:00:31:01">
        <br/>
        <br/>
        <br/>
        <br/>
        <br/>
        <span style="whiteOnblackDH"> one-line on row 5</span>
      </p>
    </div>
  </body>
</tt>
```

Only export the part of STL metadata to TTML:

```
GET /item/{id}/metadata/export/ttml;interval=905207@PAL-905253@PAL,904994@PAL-905065@PAL
```

New in version 4.1.2: It is possible to apply different offsets to the exported time intervals:

```
GET /item/{id}/metadata/export/ttml;interval=100@PAL-250@PAL:-25@PAL,500@PAL-1000@PAL:-250@PAL
```

16.16 Miscellaneous

16.16.1 Stitching images

New in version 4.0.

This resource provides an easy way of stitching images together. The result is cached in memory (and Memcached if it is activated in the configuration properties) for 3 hours.

It can be used with any image content and is not bound to be used with material imported in Vidispine. However, a typical usage of this service would be to assemble together representative thumbnails from several items of a collection.

Note: This request must go to http://server:8080/APInoauth/ instead of the usual http://server:8080/API/

Note: For a better quality rendering configure your Vidispine to use ImageMagick, see *Configuration properties*!

Note: Don't forget to URL encode all parameters!

Stitching images

Stitch images

GET /stitch

Query Parameters

- **uri** – Multiple uri instances of the images to use. For example: `uri=img1.png&uri=img2.png&uri=img3.png...`
- **geometry** – Optional geometry of the collage. For example, `100x50+10+10` will first downscale every image to fit in 100x50 then add a 10 pixels padding. If no parameter is specified, the original dimensions are used.
- **tile** – The tiling strategy. Examples are `2x2` or `2x` or `x3`... If no parameter is specified, the system will try find the best alignment.
- **format** – The format of the output image, default is PNG.
- **background** – The color of the background, default is white. Color can be specified as hex values (`0xffffff`, `#ffffff`) or as name (`white`). `none` will create an image with transparent background (PNG only).

Produces

- **image/png , image/jpeg** – The stitched image

Example

```
GET /stitch?uri=http%3A%2F%2Fvidispine.com%2Fsites%2Fall%2Fthemes%2Fvidispine%2Flogo.png&uri=http%3A%
```

16.16.2 Time zone

The `timezone` query parameter can be used to change the time zone of all dates in a response. This is supported for all API requests.

For example, to get the job information with dates in GMT-8.

```
GET /API/job?timezone=GMT-8
```

```
<JobListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <hits>116730</hits>
    <job>
      <jobId>VX-1</jobId>
      <user>admin</user>
      <started>2013-02-02T04:28:17.023-08:00</started>
      <status>ABORTED</status>
      <type>PLACEHOLDER_IMPORT</type>
      <priority>MEDIUM</priority>
```

```
    </job>
  ...
</JobListDocument>
```

See also:

TimeZone.getAvailableIDs (http://docs.oracle.com/javase/7/docs/api/java/util/TimeZone.html#getAvailableIDs()) for all legal time zone identifiers.

16.16.3 Troubleshooting

New in version 4.2.2.

These resources are intended to aid when developing against Vidispine or when troubleshooting.

XML and JSON

Echo

PUT /APInoauth/debug/echo
Returns the provided XML in the Vidispine schema as either XML or JSON.

Use it to verify that XML is valid and parsed properly, or to convert from XML to JSON for example.

Accepts

- **application/xml** – Any XML in the Vidispine schema.

Produces

- **application/xml, application/json** – The input as XML or JSON.

Example

```
PUT /APInoauth/debug/echo
Accept: application/json

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>test</text>
</ItemSearchDocument>

200 OK

{
  "text": [
    {
      "value": "foo"
    }
  ]
}
```

16.17 Notifications

To define a notification, you need an action, a trigger, and a resource. Actions define what to do when the event happens. The trigger defines what type of event to trigger on, and the resource defines which entities to trigger for.

16.17.1 Actions

An action is what will be done when a notification is triggered. The action taken is that a message will be sent to either a HTTP, EJB or JMS recipient, or being processed by a JavaScript.

An action can be sent either synchronously or asynchronously. The behaviour of synchronous vs. asynchronous notifications differ somewhat between the different action types, and is explained in the reference below. In general, however, synchronous notifications are sent from the same thread from where it was triggered, and asynchronous notifications are sent in a separate thread, allowing processing to continue right away after triggering.

HTTP

Action parameters

The details of the HTTP action are set in the action element in the notification definition.

`url` The URL to the HTTP resource. Mandatory parameter. (New in 4.1.4.) Basic auth username and password is supported. (`http://user:password@host...`)

`method` The HTTP method to use, POST and PUT are supported. Mandatory parameter.

`timeout` The timeout (in seconds) before assuming network failure. Use 0 or none to specify that there is no timeout. Mandatory parameter.

`retry` The number of retries. Mandatory parameter.

`synchronous` See below. Mandatory parameter.

`contentType` The content type of the message sent to the destination. For supported values, see below. Optional value.

Request body in notification message

The message in the request body depends on `contentType`:

`text/plain` Default format. A CRLF-delimited list with tab-separated rows that consist of the key followed by its values.

`application/xml` *SimpleMetadataDocument*

`application/json` *SimpleMetadataDocument*

Error-handling logic

The output depends on the content-type set in the action definition. The way the HTTP action works depends on if it is setup as synchronous or asynchronous. Below is a table that shows the differences.

Response	Synchronous	Asynchronous
Connection timeout	Stops	Will retry for a specified number of times
Receives HTTP code 2xx	Continues	Continues
Receives HTTP code 4xx	Stops	Stops
Receives HTTP code 5xx	Stops	Will retry for a specified number of times

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        <http synchronous="false">
            <retry>3</retry>
            <contentType>application/json</contentType>
            <url>http://example.com/notify</url>
            <method>POST</method>
            <timeout>5</timeout>
        </http>
    </action>
    <trigger>
        ...
    </trigger>
</NotificationDocument>
```

EJB

Methods in EJBs must have the following signature and should not throw any exceptions. A null value as a response will always be regarded as that the message is *not* accepted and the action should stop. Note that returning the empty string is not the same as returning null, and will just be treated as an empty response.

```
public java.lang.String methodName(java.util.Map<java.lang.String, java.util.List<java.lang.String>>)
```

Note: JNDI names must be prefixed by `vidibrain` (case insensitive).

Action parameters

The details of the EJB action are set in the action element in the notification definition.

bean The JNDI name of the bean. Mandatory parameter.

method The method name of the bean. See above for method signature. Mandatory parameter.

synchronous See below. Mandatory parameter.

Error-handling logic

Response	Synchronous	Asynchronous
Could not find the bean	Stops	Continues
Could not find the method	Stops	Continues
Returns null value	Stops	Continues
Returns non-null value	Continues	Continues

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
      <ejb synchronous="true">
         <bean>vidibrain.beans.MyBeanRemote</bean>
         <method>myMethod</method>
```

```
      </ejb>
   </action>
   <trigger>
      ...
   </trigger>
</NotificationDocument>
```

JMS

JMS queues can be notified. While it is possible to call them in asynchronous mode, there is not much point in doing so. This is since messages on JMS queues always are treated asynchronously. Below a table can be seen over what the outcome is based on the different responses.

Action parameters

The details of the EJB action are set in the action element in the notification definition.

queueFactory The JNDI name of the JMS factory. Mandatory parameter.

queue The JNDI name of the JMS queue. Mandatory parameter.

synchronous See below. Mandatory parameter.

contentType (New in 4.2.1.) The content type of the message sent to the destination. For supported values, see below. Optional value.

Notification message

The JMS message depends on `contentType`:

application/x-java-serialized-object Default format. An `ObjectMessage` with a `Map<String, List<String> >` object.

text/plain A `TextMessage` with a CRLF-delimited list with tab-separated rows that consist of the key followed by its values.

application/xml A `TextMessage` with *SimpleMetadataDocument*

application/json A `TextMessage` with *SimpleMetadataDocument*

Error-handling logic

Response	Synchronous	Asynchronous
Could not find the queue	Stops	Continues
Could not find the queue factory	Stops	Continues

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
      <jms synchronous="true">
         <queueFactory>VidibrainQueueFactory</queueFactory>
         <queue>VidibrainQueue</queue>
```

```
      </jms>
   </action>
   <trigger>
      ...
   </trigger>
</NotificationDocument>
```

JavaScript

New in version 4.2.

With a notification with a JavaScript action, it is possible to script actions directly in Vidispine. All of the output values (see below), are mapped to its respective variable in the JavaScript environment, unless if it is a multi-value list, then it is mapped to name + `List`. All output values are also available in the variable data, which is a Map from the id to a List of strings.

Action parameters

The details of the EJB action are set in the action element in the notification definition.

`script` The actual JavaScript. Mandatory parameter.

`synchronous` See below. Mandatory parameter.

Error-handling logic

Response	Synchronous	Asynchronous
Errors (exceptions) in the execution	Stops	Continues

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
      <javascript>
         <script>
             logger.log("itemId: "+itemId+", "+data);
         </script>
      </javascript>
   </action>
   <trigger>
      ...
   </trigger>
</NotificationDocument>
```

16.17.2 Triggers

A trigger is the event that will cause the notification to be sent. Different triggers exist for different resources. The trigger used determines what output that can be expected. Note that all keys will not necessarily be set and some keys may have more than one value.

Item triggers

Item create

Resource	/item	
Parameters	-	
Output	itemId	The id of the created item
	action	The string “CREATE”

Notifies when an item has been created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <item>
            <create/>
        </item>
    </trigger>
</NotificationDocument>
```

Item delete

Resource	/item	
Parameters	-	
Output	itemId	The id of the deleted item
	action	The string “DELETE”

Notifies when an item has been deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <item>
            <delete/>
        </item>
    </trigger>
</NotificationDocument>
```

Item modify

Resource	/item	
Parameters	field	Specifies which fields to trigger on.
	interval	Specifies which intervals to trigger on.
	language	Specifies which languages to trigger on.
	track	Specifies which tracks to trigger on.
Output	itemId	The id of the modified item.
	changeSetId	The id of the metadata change set that was created. (New in 4.0.)
	(field-name)	The value of the field with the name (field-name).

Notifies when the metadata of an item has been modified. For the syntax of the parameters, please refer to *Get metadata*.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <metadata>
            <modify>
                <field>field_a, field_b</field>
                <language>en_*</language>
            </modify>
        </metadata>
    </trigger>
</NotificationDocument>
```

Item create access

Resource	/item	
Parameters	-	
Output	notificationType	The string “access”.
	notificationTrigger	The string “CREATE”.
	itemId	The id of the item that were assigned the access control.
	accessId	The id of the access control.
	permission	The level of permission granted by the access control.
	user	If the access control grants access to a particular user, this value is set.
	group	If the access control grants access to a particular group, this value is set.

Sends a notification when an access control is created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <access>
            <create/>
```

```
        </access>
    </trigger>
</NotificationDocument>
```

Item delete access

Resource	/item	
Parameters	-	
Output	notificationType	The string “access”.
	notificationTrigger	The string “DELETE”.
	itemId	The id of the item that were assigned the access control.
	accessId	The id of the access control.
	permission	The level of permission granted by the access control.
	user	If the access control grants access to a particular user, this value is set.
	group	If the access control grants access to a particular group, this value is set.

Sends a notification an access control is deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <access>
            <delete/>
        </access>
    </trigger>
</NotificationDocument>
```

Item change access

New in version 4.0.

Resource	/item	
Parameters	-	
Output	notificationType	The string “access”.
	notificationTrigger	The string “CHANGE”.
	itemId	The id of the item that were assigned the access control.
	accessId	The id of the access control.
	permission	The level of permission granted by the access control.
	user	If the access control grants access to a particular user, this value is set.
	group	If the access control grants access to a particular group, this value is set.

Sends a notification when an access control is changed.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <access>
            <change/>
        </access>
    </trigger>
</NotificationDocument>
```

Item create shape

Resource	/item	
Parameters	-	
Output	notificationType	The string “shape”.
	notificationTrigger	The string “CREATE”.
	itemId	The id of the item that the shape belongs to.
	shapeId	The id of the shape.

Sends a notification when a shape is created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <shape>
            <create/>
        </shape>
    </trigger>
</NotificationDocument>
```

Item modify shape

Resource	/item	
Parameters	-	
Output	notificationType	The string “shape”.
	notificationTrigger	The string “MODIFY”.
	itemId	The id of the item that the shape belongs to.
	shapeId	The id of the shape.

Sends a notification when a shape is modified.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <shape>
```

```
            <modify/>
        </shape>
    </trigger>
</NotificationDocument>
```

Item delete shape

Resource	/item	
Parameters	-	
Output	notificationType	The string “shape”.
	notificationTrigger	The string “DELETE”.
	itemId	The id of the item that the shape belongs to.
	shapeId	The id of the shape.

Sends a notification when a shape is deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <shape>
            <delete/>
        </shape>
    </trigger>
</NotificationDocument>
```

Collection triggers

Collection create

Resource	/collection	
Parameters	-	
Output	collectionId	The id of the created collection
	action	The string “CREATE”

Notifies when a collection has been created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <collection>
            <create/>
        </collection>
    </trigger>
</NotificationDocument>
```

Collection delete

Resource	/collection	
Parameters	-	
Output	collectionId	The id of the deleted collection
	action	The string "DELETE"

Notifies when a collection has been deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <collection>
            <delete/>
        </collection>
    </trigger>
</NotificationDocument>
```

Collection metadata

Resource	/collection	
Parameters	field	Specifies which fields to trigger on.
	interval	Specifies which intervals to trigger on.
	language	Specifies which languages to trigger on.
	track	Specifies which tracks to trigger on.
Output	collectionId	The id of the modified collection.
	changeSetId	The id of the metadata change set that was created. (New in 4.0‘‘.)
	(field-name)	The value of the field with the name (field-name).

Notifies when the metadata of a collection has been modified. For the syntax of the parameters, please refer to *Get metadata*.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
      <collection>
        <metadata>
            <modify>
                <field>field_a, field_b</field>
                <language>en_*</language>
            </modify>
        </metadata>
      </collection>
    </trigger>
</NotificationDocument>
```

Collection modify

Resource	/collection	
Parameters	-	
Output	notificationType	The string “collection”.
	notificationTrigger	The string “MODIFY”.
	collectionId	The id of the collection that has changed.

Sends a notification when the content of a collection has been modified.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <collection>
            <modify/>
        </collection>
    </trigger>
</NotificationDocument>
```

Group triggers

Group create

Resource	/group	
Parameters	-	
Output	group	The name of the created group.
	action	The string “CREATE”
	username	The name of the user that created the group.

Sends a notification when a group is created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <group>
            <create/>
        </group>
    </trigger>
</NotificationDocument>
```

Group delete

Resource	/group	
Parameters	-	
Output	group	The name of the deleted group.
	action	The string "DELETE"
	username	The name of the user that deleted the group.

Notifies when a group has been deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <group>
            <delete/>
        </group>
    </trigger>
</NotificationDocument>
```

Group modify

Resource	/group	
Parameters	-	
Output	group	The name of the modified group.
	action	The string "MODIFY"
	username	The name of the user that modified the group.
	mode	Either has the value "ADD" or "REMOVE" depending on the action taken on the group.
	affectedGroup	Contains the name of any affected group.
	affectedUser	Contains the name of any affected user.

Notifies when the contents of a group has been modified.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <group>
            <modify/>
        </group>
    </trigger>
</NotificationDocument>
```

Job triggers

Normal job notifications

```
POST /job/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
         ...
   </action>
   <trigger>
      <job>
         <stop/>
      </job>
   </trigger>
</NotificationDocument>
```

This notification will be triggered when any job stops.

Placeholder job notifications

One way job notifications differ from other notifications is that they can be created in advanced and then later be specified when starting a job. Note that a single job notification can be used for several jobs.

Creating a placeholder notification, that triggers when jobs stop:

```
POST /job/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
         ...
   </action>
   <trigger>
      <job>
         <stop/>
         <placeholder>true</placeholder>
      </job>
   </trigger>
</NotificationDocument>
```

```
VX-16
```

Using that notification when creating a new import job:

```
POST /import/?URL=http://example.com/video.avi&notification=VX-16
Content-Type: application/xml

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <timespan start="-INF" end="+INF">
      <field>
         <name>title</name>
         <value>My notification item!</value>
      </field>
   </timespan>
</MetadataDocument>
```

Job create

Resource	/job	
Parameters	-	
Output	jobId	The id of the created job.
	action	The string “CREATE”.
	status	The status of the job.
	type	The type of the job.

Notifies when a job is created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <job>
            <create/>
        </job>
    </trigger>
</NotificationDocument>
```

Job stop

Resource	/job	
Parameters	-	
Output	jobId	The id of the stopped job.
	action	The string “STOP”.
	status	The status of the job.
	type	The type of the job.
	currentStepNumber	The current step number.
	currentStepStatus	The status of the current step.

Notifies when a job has stopped running, either successfully or unsuccessfully. Note that the output may also contain additional job specific data such as `itemId`, in the case of an import job.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <job>
            <stop/>
        </job>
    </trigger>
</NotificationDocument>
```

Job update

Resource	/job	
Parameters	-	
Output	jobId	The id of the stopped job.
	action	The string "UPDATE".
	status	The status of the job.
	type	The type of the job.
	currentStepNumber	The current step number.
	currentStepStatus	The status of the current step.

Notifies when the status of a job changes. Note that the output may also contain additional job specific data such as `itemId`, in the case of an import job.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <job>
            <update/>
        </job>
    </trigger>
</NotificationDocument>
```

Job filtering

Job types

Filter criteria can be added to job notifications in order to filter the jobs they trigger on.

Name	Description
type	The type of the job
step	The step that the job is currently on
jobdata	A particular value in the job metadata. Job metadata consists of key value pairs and can be matched either by string comparison or regular expressions.

Example

```
POST /job/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
       ...
   </action>
   <trigger>
      <job>
         <stop/>
         <filter>
           <type>PLACEHOLDER_IMPORT</type>
         </filter>
      </job>
```

```
   </trigger>
</NotificationDocument>
```

this notification is triggered only when a PLACEHOLDER_IMPORT job stops.

Note: If you find notification filtering not working, please verify that there is no normal job notification existing.

Job metadata

Either by string comparison or regular expressions:

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
         ...
   </action>
   <trigger>
      <job>
         <stop/>
         <filter>
           <type>PLACEHOLDER_IMPORT</type>
           <jobdata>
                <key>key</key>
                <value>value</value>
           </jobdata>
         </filter>
      </job>
   </trigger>
</NotificationDocument>

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
         ...
   </action>
   <trigger>
      <job>
         <stop/>
         <filter>
           <type>PLACEHOLDER_IMPORT</type>
           <jobdata>
                <key-regex>regex</key-regex>
                <value-regex>regex</value-regex>
           </jobdata>
         </filter>
      </job>
   </trigger>
</NotificationDocument>
```

Content Filter

New in version 4.0.

Content filter criteria can be added to job notifications in order to reduce the size of `jobDocument` returned by Vidispine.

Example:

```
POST /job/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <action>
        ...
   </action>
  <trigger>
    <job>
      <stop/>
      <contentFilters>
        <contentFilter>jobId</contentFilter>
        <contentFilter>jobState</contentFilter>
      </contentFilters>
    </job>
  </trigger>
</NotificationDocument>
```

Legal content filters are:

```
<contentFilters>
  <contentFilter>jobId</contentFilter>
  <contentFilter>jobState</contentFilter>
  <contentFilter>user</contentFilter>
  <contentFilter>startTime</contentFilter>
  <contentFilter>jobType</contentFilter>
  <contentFilter>jobData</contentFilter>
  <contentFilter>errorMessage</contentFilter>
  <contentFilter>itemId</contentFilter>
  <contentFilter>totalSteps</contentFilter>
  <contentFilter>currentStep</contentFilter>
</contentFilters>
```

Storage triggers

Create storage

Resource	/storage	
Parameters	-	
Output	storageId	The id of the created storage.
	action	The string “CREATE”.

Notifies when a storage is created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <storage>
            <create/>
        </storage>
    </trigger>
</NotificationDocument>
```

Delete storage

Resource	/storage	
Parameters	-	
Output	storageId	The id of the deleted storage.
	action	The string "DELETE".

Notifies when a storage is being deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <storage>
            <delete/>
        </storage>
    </trigger>
</NotificationDocument>
```

Generate filename

Resource	/storage	
Parameters	-	
Output	storageId	The id of the storage.
	action	The string "FILENAME".
	itemId	The id of the item the file belongs to.
	shapeId	The id of the shape the file belongs to.
	componentId	The id of the component the file belongs to.
	fileId	The id of the file.
	username	The name of the user that causes the file to be created.
	metadata	The metadata of the item.
	shapeTag	A list of shape tags that belong to the shape.

Notifies when a file is being created on a storage. The message returned by the HTTP or EJB action will be used as a filename. If multiple notifications exist for a storage, then either one that returns a valid filename will be used. A valid filename follows the following format: `[A-Za-z0-9\_-]+`. It is recommended to use `fileId` in some way to guarantee the uniqueness of the filename.

Note that only the `storageId`, `action` and `fileId` output values are guaranteed to be included.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <storage>
            <filename/>
        </storage>
    </trigger>
</NotificationDocument>
```

Note: It is recommended to use the filename generation script function instead, see *Naming files on storage*.

File triggers

Only generic file notifications are available, that is, there is no way to apply a notification to an individual file.

Creating file notifications

Creating a placeholder notification, that triggers when file is created:

```
POST /storage/file/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
         ...
   </action>
   <trigger>
      <file>
         <new/>
      </file>
   </trigger>
</NotificationDocument>

VX-16
```

New file

Resource	`/storage/file`	
Parameters	-	
Output	`fileId`	The id of the new file.
	`action`	The string "NEW".
	`storageId`	The id of the storage the file is located on.
	`shapeId`	The `shapeId` of the file, if available.
	`itemId`	The id of the item the file is associated with if available.

Notifies when a file is created, or has been discovered.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <file>
            <new/>
        </file>
    </trigger>
</NotificationDocument>
```

File has changed

Resource	/storage/file	
Parameters	-	
Output	fileId	The id of the changed file.
	action	The string “CHANGE”.
	storageId	The id of the storage the file is located on.
	shapeId	The shapeId of the file, if available.
	itemId	The id of the item the file is associated with if available.

Notifies when a file has changed.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <file>
            <change/>
        </file>
    </trigger>
</NotificationDocument>
```

File has closed

Resource	/storage/file	
Parameters	-	
Output	fileId	The id of the changed file.
	action	The string “CLOSE”.
	storageId	The id of the storage the file is located on.
	shapeId	The shapeId of the file, if available.
	itemId	The id of the item the file is associated with if available.

Notifies when a file has been marked as closed in Vidispine.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <file>
            <close/>
        </file>
    </trigger>
</NotificationDocument>
```

File was deleted

Resource	`/storage/file`	
Parameters	-	
Output	`fileId`	The id of the deleted file.
	`action`	The string “DELETE”.
	`storageId`	The id of the storage the file is located on.
	`shapeId`	The `shapeId` of the file, if available.
	`itemId`	The id of the item the file is associated with if available.

Notifies when a file has been deleted.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <file>
            <delete/>
        </file>
    </trigger>
</NotificationDocument>
```

File hash has been computed

New in version 4.1.

Resource	`/storage/file`	
Parameters	-	
Output	`fileId`	The id of the hashed file.
	`action`	The string “HASH”.
	`storageId`	The id of the storage the file is located on.
	`shapeId`	The `shapeId` of the file, if available.
	`itemId`	The id of the item the file is associated with if available.

Notifies when a file has been hashed.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <file>
            <hash/>
        </file>
    </trigger>
</NotificationDocument>
```

Quota triggers

Quota triggers can be set to send a notification when a quota has been exceeded, when a quota is added, and when a quota is deleted.

Create quota notifications

Creating a placeholder notification, that triggers when a quota is exceeded:

```
POST /quota/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <action>
         ...
   </action>
   <trigger>
      <quota>
         <warning/>
      </quota>
   </trigger>
</NotificationDocument>
```

```
VX-16
```

Quota warning

Resource	/quota	
Parameters	-	
Output	ruleId	The id of the quota rule
	notificationTrigger	The string “WARNING”.
	itemLimit	The item limit set in the triggering rule.
	storageLimit	The storage limit set in the triggering rule.
	itemUsage	The current usage in items
	storageUsage	The current usage on storages.

Notifies when a quota has been exceeded.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <quota>
            <warning/>
        </quota>
    </trigger>
</NotificationDocument>
```

Quota create

Resource	/quota	
Parameters	-	
Output	ruleId	The id of the quota rule
	notificationTrigger	The string “CREATE”.
	itemLimit	The item limit set in the triggering rule.
	storageLimit	The storage limit set in the triggering rule.
	itemUsage	The current usage in items
	storageUsage	The current usage on storages.

Notifies when a quota has been created.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <quota>
            <created/>
        </quota>
    </trigger>
</NotificationDocument>
```

Quota delete

Resource	/quota	
Parameters	-	
Output	ruleId	The id of the quota rule
	notificationTrigger	The string “DELETE”.
	itemLimit	The item limit set in the triggering rule.
	storageLimit	The storage limit set in the triggering rule.
	itemUsage	The current usage in items
	storageUsage	The current usage on storages.

Notifies when a quota has been exceeded.

Example

```
<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <action>
        ...
    </action>
    <trigger>
        <quota>
            <delete/>
        </quota>
    </trigger>
</NotificationDocument>
```

16.17.3 Notifications

Most URLs that acts as resources in the RESTful API are used as resources in the notification framework as well. In the below API reference, `{notification-entity}` is one of the following:

- `/item`
- `/collection`
- `/job`
- `/storage`
- `/storage/file`
- `/quota`

Applying notifications to entire resources

Notifications can be applied to entire resources. For example if used on the item resource, then events that occur to any item will potentially trigger the event.

Retrieve all notifications that exists within an entire resource

GET {notification-entity}/notification/
Lists URIs to all notifications that exists within the given resource.

Produces

- **application/xml, application/json** – A *URIListDocument* containing URIs to all available notifications.
- **text/plain** – A CRLF-delimited list of URIs.

Role _{notification-entity}_notification_read

Example

```
GET /item/job/notification
Accept: application/xml
```

```
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-573</uri>
</URIListDocument>
```

Create a new notification that is applied to the entire resource

POST {notification-entity}/notification/
Adds a notification that is applied to an entire resource

Accepts

- **application/xml, application/json** – *NotificationDocument*

Produces

- **text/plain** – The id of the notification.

Role _{notification-entity}_notification_write

Example Create a notification that triggers when PLACEHOLDER_IMPORT job finish.

```
POST /item/job/notification
Content-Type: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <action>
    <http>
      <url>http://10.10.0.3/notify-job</url>
      <timeout>5</timeout>
      <retry>3</retry>
      <method>POST</method>
      <contentType>application/xml</contentType>
    </http>
  </action>
  <trigger>
    <job>
      <finished/>
      <filter>
        <type>PLACEHOLDER_IMPORT</type>
      </filter>
    </job>
  </trigger>
</NotificationDocument>

<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-573</uri>
</URIListDocument>
```

Deletes all notifications that exists within an entire resource

DELETE {notification-entity}/notification/

Removes all notifications that exists within the specified resource.

Status Codes

- **200 OK** – Everything went well.

Role _{notification-entity}_notification_write

Example Retrieve job notification VX-573.

```
GET /item/job/notification/VX-573
Accept: application/xml

<NotificationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <action>
    <http>
      <url>http://10.10.0.3/notify-job</url>
      <timeout>5</timeout>
      <retry>3</retry>
      <method>POST</method>
      <contentType>application/xml</contentType>
    </http>
  </action>
  <trigger>
    <job>
```

```
      <finished/>
      <filter>
        <type>PLACEHOLDER_IMPORT</type>
      </filter>
    </job>
  </trigger>
</NotificationDocument>
```

Retrieve a particular notification

GET {notification-entity}/notification/ (*notification-id*)
Retrieves a particular notification with the given id.

Status Codes

- **404 Not found** – No notification with that id exists in that resource.

Produces

- **application/xml, application/json** – *NotificationDocument*

Role _{notification-entity}_notification_read

Remove a particular notification

DELETE {notification-entity}/notification/ (*notification-id*)
Removes a particular notification with the given id.

Status Codes

- **200 OK** – The notification was successfully removed.
- **404 Not found** – No notification with that id exists in that resource.

Produces

- **application/xml, application/json** – *NotificationDocument*

Role _{notification-entity}_notification_write

Applying notifications to specific entities

Notifications can also be applied on specific entities, for example a single job.

Retrieve all notifications that exists for a particular entity

GET {notification-entity}/ (*entity-id*) **/notification/**
Lists URIs to all notifications that exists for a given entity.

Produces

- **application/xml, application/json** – A *URIListDocument* containing URIs to all available notifications.
- **text/plain** – A CRLF-delimited list of URIs.

Role _{notification-entity}_notification_read

Create a new notification that is applied to a particular entity

POST {notification-entity}/(*entity-id*)**/notification/**

Adds a notification to the given entity.

Accepts

- **application/xml, application/json** – *NotificationDocument*

Produces

- **text/plain** – The id of the notification.

Role _{notification-entity}_notification_write

Deletes all notifications that exists within an entire resource

DELETE {notification-entity}/(*entity-id*)**/notification/**

Removes all notifications that exists within the specified resource.

Status Codes

- **200 OK** – Everything went well.

Role _{notification-entity}_notification_write

Retrieve a particular notification

GET {notification-entity}/(*entity-id*)**/notification/**

notification-id Retrieves a particular notification with the given id.

Status Codes

- **404 Not found** – No notification with that id exists in that resource.

Produces

- **application/xml, application/json** – *NotificationDocument*

Role _{notification-entity}_notification_read

Remove a particular notification

DELETE {notification-entity}/(*entity-id*)**/notification/**

notification-id Removes a particular notification with the given id.

Status Codes

- **200 OK** – The notification was successfully removed.
- **404 Not found** – No notification with that id exists in that resource.

Produces

- **application/xml, application/json** – *NotificationDocument*

Role _{notification-entity}_notification_write

16.18 Projects and versions

16.18.1 Projects

Create a project collection

POST /collection/project

Creates a project collection with the given name and metadata.

Accepts

- **application/xml, application/json** – *ProjectDocument*

Produces

- **application/xml, application/json** – *URIListDocument*

Example

```
POST /collection/project
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <name>Untitled Project</name>
  <metadata>...</metadata>
</ProjectDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-1</uri>
</URIListDocument>
```

16.18.2 Project versions

Create a project version collection

POST /collection/(*id*)**/version**

Creates a new project version collection for a specific project.

Status Codes

- **404 Not found** – Could not find the collection

Accepts

- **application/xml, application/json** – *ProjectVersionDocument*

Produces

- **application/xml, application/json** – *URIListDocument*

Example

```
POST /collection/VX-1/version
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectVersionDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <item>
    <id>VX-1</id>
  </item>
  <sequence>...</sequence>
  <metadata>...</metadata>
</ProjectVersionDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-2</uri>
</URIListDocument>
```

16.18.3 Version definitions

List the available version definitions

GET /collection/ (*id*) **/definition**
Returns the format of the definitions that have been stored for a specific project version.

Status Codes

- **404 Not found** – Could not find the collection

Produces

- **text/plain** – A CLRF separated list of formats.

Update a project version definition

PUT /collection/ (*id*) **/definition/**
format Updates a binary representation of the project version. The collection must be a project version collection.

Status Codes

- **404 Not found** – Could not find the collection

Accepts

- **application/octet-stream** – The binary version definition

Retrieve a project version definition

GET /collection/ (*id*) **/definition/**
format Retrieves a binary representation of the project version.

Status Codes

- **404 Not found** – Could not find the collection
- **404 Not found** – Could not find the definition

Produces

- **application/octet-stream** – The stored version definition

16.18.4 Assets in project version definition

To be able to track which clips and sequences corresponds to which items in Vidispine, an essence mapping can be stored for each version definition. This mapping is required for Vidispine to be able to convert between different formats.

Retrieve the asset definition

GET /collection/ (*id*) **/definition/**
*format***/asset** Returns the asset document that has been stored for a specific project version definition.

Status Codes

- **404 Not found** – Could not find the collection
- **404 Not found** – Could not find the definition

Produces

- **application/xml, application/json** – *EssenceMappingsDocument*

Update the asset definition

PUT /collection/ (*id*) **/definition/**
*format***/asset** Stores an asset document for a specific project version definition. The document should identify the items and files referenced by the definition.

Status Codes

- **404 Not found** – Could not find the collection
- **404 Not found** – Could not find the definition

Accepts

- **application/xml, application/json** – *EssenceMappingsDocument*

16.18.5 Inspecting project files

Inspect a project file

POST /collection/project/inspect
Returns a document listing the sequences and assets referenced from a given project file.

Query Parameters

- **uri** – The location of the file to inspect.
- **type** – The file format.

Accepts

- **application/xml, application/json** – *EssenceMappingsDocument*

Produces

- **application/xml, application/json** – *ProjectFileDocument*

Example

```
POST /collection/project/inspect?uri=file:///home/maria/sequence.xml&amp;type=finalcut
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<EssenceMappingDocument xmlns="http://xml.vidispine.com/schema/vidispine">
</EssenceMappingDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectFileDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <location>file:///home/maria/sequence.xml</location>
  <asset>
    <id>urn:uuid:8CED8AFE-1A67-4632-AB57-D5F5B1E0BC49</id>
    <name>Sequence 1</name>
    <type>sequence</type>
    <status>unknown</status>
  </asset>
  <asset>
    <id>urn:uuid:FCAD0878-7129-43DA-A8A0-696590EFE4DA</id>
    <name>Sample Clip B</name>
    <type>clip</type>
    <status>unknown</status>
    <file>
      <path>file://localhost/Users/maria/Sample%20Clip%20B.mov</path>
    </file>
  </asset>
  <asset>
    <id>urn:uuid:76BE320F-48E0-47A5-A076-227158C50024</id>
    <name>Clip A</name>
    <type>clip</type>
    <status>unknown</status>
    <file>
      <path>file://localhost/Users/maria/Movies/Vidispine/VX-1.mov</path>
    </file>
  </asset>
</ProjectFileDocument>
```

16.18.6 Importing projects and sequences

Import a sequence

POST /import/project/sequence

Creates a new item with a Vidispine sequence representations of the given file. The file must contain a single sequence.

The item will also have a sequence contain the original data from the file, together with an essence mapping for identifying the items and files referenced by the sequence.

Query Parameters

- **uri** – The location of the file to import.
- **type** – The file format.

- **pauseFrame** – When a rendering job is started, this parameter determines which frame the job will pause at. The job will resume when the sequence is updated.

Accepts-xml.-json *EssenceMappingsDocument*

Produces

- **application/xml, application/json** – *URIListDocument*

Example

```
POST /import/project/sequence?uri=file:///home/maria/sequence.xml&amp;type=finalcut
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<EssenceMappingsDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <asset id="urn:uuid:76BE320F-48E0-47A5-A076-227158C50024" item="VX-1"/>
  <file path="file://localhost/storage/VX-1.mov" hash="7b8d6ffe1ea468800578d6b7d4a09b012c461569"/>
</EssenceMappingsDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-8</uri>
</URIListDocument>
```

Retrieving the sequences:

```
GET /item/VX-8/sequence

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SequenceListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <sequence>
    <id>VX-1</sequence>
    <type>finalcut</type>
  </sequence>
  <sequence>
    <id>VX-2</sequence>
    <type>vidispine</type>
  </sequence>
</SequenceListDocument>
```

Import a project

POST /import/project

Creates a new project version containing the clips and sequences found in the given project file. Sequences in the file will be created as items having a Vidispine sequence representation.

Query Parameters

- **collectionId** – The id of the project to create a new version for.
- **uri** – The location of the file to import.
- **type** – The file format.

Accepts

- **application/xml, application/json** – *EssenceMappingsDocument*

Produces

- **application/xml, application/json** – *URIListDocument*

Returns The id of the new project version.

Example

Creating a new project:

```
POST /collection/project
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProjectDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <name>Marias Project</name>
  <metadata/>
</ProjectDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-1</uri>
</URIListDocument>
```

Creating a new project version with the clips and sequences from a Final Cut Pro project.

```
POST /import/project?collectionId=VX-1&amp;type=finalcut&amp;uri=file:///storage/project..xml
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<EssenceMappingsDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <asset id="urn:uuid:76BE320F-48E0-47A5-A076-227158C50024" item="VX-1"/>
  <file path="file://localhost/storage/VX-1.mov" hash="7b8d6ffe1ea468800578d6b7d4a09b012c461569"/>
</EssenceMappingsDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<URIListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <uri>VX-2</uri>
</URIListDocument>
```

16.18.7 Exporting projects and sequences

Export a project or sequence

POST /collection/(*id*)**/version/export**
POST /item/(*id*)**/sequence/export**
POST /sequence/export

Exports the sequence or project to the requested output format and saves the result at the given location.

For POST /sequence/export the sequence must be specified in the request document.

Query Parameters

- **uri** – The destination URI.
- **type** – The output format.
- **tag** – A comma separated list of shape tags specifying which shapes to reference in the output.

- **format** – A comma separated list of formats specifying which shapes to reference in the output. If both tag and format is given, then both must match.
- **dryRun** – When set to true, any export problems will be returned and no file will be written.

Status Codes

- **404 Not found** – Invalid id

Accepts

- **application/xml, application/json** – *ExportRequestDocument* with details on the export.

Produces

- **application/xml, application/json** – *ExportResponseDocument*

Returns A document containing the essence mapping, and any export problems (if a dry run.)

The storage(s) that should be used can be specified in the request, and should be ordered in descending priority. For each storage it is also possible to specify the path to where the files will be available, so that formats that reference files by path can contain a usable client-side path.

Example

```
POST /item/VX-6/sequence/export?uri=file:///tmp/output.xml&amp;type=finalcut
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ExportRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storage>
    <id>VX-1</id>
    <path>/Users/maria/Movies/Vidispine/</path>
  </storage>
</ExportRequestDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ExportResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <mappings>
    <file path="file:///Users/maria/Movies/Vidispine/VX-1.mov" hash="7b8d6ffe1ea468800578d6b7d4a09b01
    <asset id="480a5bd6-b89a-476c-be2f-c2ce23ba53e8" item="VX-1"/>
  </mappings>
</ExportResponseDocument>

$ cat /tmp/output.xml

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE xmeml>
<xmeml version="5">
  ...
  <clip id="480a5bd6-b89a-476c-be2f-c2ce23ba53e8">
    <name>Item title</name>
    <uuid>480a5bd6-b89a-476c-be2f-c2ce23ba53e8</uuid>
    <file>
      ...
      <pathurl>file://localhost/Users/maria/Movies/Vidispine/VX-1.mov</pathurl>
    </file>
    ...
  </clip>
```

```
  ...
</xmeml>
```

Exporting to AAF without first transcoding the items to OP-Atom.

```
POST /item/VX-6/sequence/export?type=aaf&amp;dryRun=true&amp;tag=op-atom``
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ExportRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
</ExportRequestDocument>

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ExportResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <problem>
    <type>missing-shape</type>
    <message>Found no shape matching the given format</message>
    <parameter>
      <key>item</key>
      <value>VX-1</value>
    </parameter>
    <parameter>
      <key>format</key>
      <value></value>
    </parameter>
    <parameter>
      <key>tag</key>
      <value>op-atom</value>
    </parameter>
  </problem>
  <mappings>
    <asset id="urn:uuid:11111111-2222-3333-4444-555555555555" item="VX-1"/>
  </mappings>
</ExportResponseDocument>
```

16.19 Quota rules

Vidispine can monitor the disk usage and the number of items that exist in the system, and send a notification if the usage exceeds certain user defined limits. A quota rule is used to define the limits that apply for a certain set of resources - items and files.

16.19.1 Managing quota rules

Create a quota rule

POST /quota/

Creates a quota rule with the filters and resource limits as specified in the quota rule document.

Accepts

- **application/xml, application/json** – *QuotaRuleDocument*

Produces

- **application/xml, application/json** – *QuotaRuleDocument*

Role _quota_write

Example

Limit user `stephen` to 1000 items and 10000000 bytes of storage on VX-1:

```
POST /quota
Content-Type: application/xml

<QuotaRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <user>stephen</user>
  <storage>VX-1</storage>
  <resource>
    <name>item</name>
    <limit>1000</limit>
  </resource>
  <resource>
    <name>storage</name>
    <limit>10000000</limit>
  </resource>
</QuotaRuleDocument>

<QuotaRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-255</id>
  <user>stephen</user>
  <storage>VX-1</storage>
  <resource>
    <name>item</name>
    <limit>1000</limit>
    <usage>2</usage>
  </resource>
  <resource>
    <name>storage</name>
    <limit>10000000</limit>
    <usage>1266704</usage>
  </resource>
</QuotaRuleDocument>
```

List existing quota rules

GET /quota/

Returns the quota rules that exist in the system.

Query Parameters

- **content** – Optional comma-separated list of addition content to retrieve. Possible values are: `external`.
- **exceeded** –
  - `true` - Returns only rules where the usage of a resource exceeds the limit that has been specified for a rule.
  - `false` (default) - Returns rules regardless of the current resource usage.

Produces

- **application/xml, application/json** – *QuotaRuleListDocument*

Role _quota_read

Example

```
GET /quota
```

```
<QuotaRuleListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <rule>
    <id>VX-255</id>
    <user>stephen</user>
    <storage>VX-1</storage>
    <resource>
      <name>item</name>
      <limit>1000</limit>
      <usage>2</usage>
    </resource>
    <resource>
      <name>storage</name>
      <limit>10000000</limit>
      <usage>1266704</usage>
    </resource>
  </rule>
</QuotaRuleListDocument>
```

Delete a quota rule

DELETE /quota/ (*rule-id*)
Deletes the quota rule.

Role _quota_write

16.20 Resources

16.20.1 Resource types

Retrieve list of resource types

GET /resource

Produces

- **application/xml, application/json** – *ResourceTypeListDocument*
- **text/plain** – CRLF-delimited list of resource type URLs (`/resource/` { **resource-type** })

Role _resource_read

16.20.2 Resources

Retrieve list of resources

GET /resource/ (*resource-type*)

Produces

- **application/xml, application/json** – *ResourceListDocument*
- **text/plain** – CRLF-delimited list of resource URLs (`/resource/` { **resource-type** } / { **resource-id** })

Role _resource_read

Create resources

POST /resource
POST /resource/ (*resource-type*)
Create a new resource.

Accepts

- **application/xml, application/json** – *ResourceDocument*

Produces

- **application/xml, application/json** – *ResourceDocument*
- **text/plain** – Resource URL

Role _resource_write

Modify resource

PUT /resource/ (*resource-type*) **/**
resource-id Updates an existing resource.

Accepts

- **application/xml, application/json** – *ResourceDocument*

Produces

- **application/xml, application/json** – *ResourceDocument*
- **text/plain** – Resource URL

Role _resource_write

Get resource

GET /resource/ (*resource-type*) **/**
resource-id

Produces

- **application/xml, application/json** – *ResourceDocument*

Role _resource_read

Delete resource

DELETE /resource/ (*resource-type*) **/**
resource-id Deletes the resource. All connection from other resources to the resource will become invalid.

Role _resource_write

16.20.3 Resource status

Get resource status on list of resources

GET /resource/ (*resource-type*) **/status**

Produces

- **text/plain** – CRLF-delimited list of *Tabbed tuples* s: resource URL, status

Role _resource_read

Get resource status

GET /resource/ (*resource-type*) **/**
*resource-id***/status**

Produces

- **text/plain** – Status string

Role _resource_read

Modify resource status

PUT /resource/ (*resource-type*) **/**
*resource-id***/status**

Accepts

- **text/plain** – New status

Produces

- **application/xml, application/json** – *ResourceDocument*
- **text/plain** – Status string

Role _resource_write

16.21 Scheduling requests

Some resources support that requests are scheduled for later processing. This is done by specifying the field `schedule` in the request header. The value should be an ISO-8601 compatible timestamp stating the earliest time the request should be processed.

If the specified timestamp already has occurred, the call will proceed as usual. Otherwise HTTP status code 202 (Accepted) will be returned together with the CRLF-delimited triple (timestamp, request id, request URI).

For example, retrieving all metadata fields at a later time:

```
GET /metadata-fields HTTP/1.1
Schedule: 2010-07-02T11:55:00+02:00

HTTP/1.1 202 Accepted

2010-07-02T11:55:00+02:00       802972  http://localhost:8080/API/scheduled-request/802972
```

16.21.1 States of scheduled requests

There are four states that a scheduled request can be in.

WAITING The request has been scheduled and is waiting to be processed.

SUCCESS The request has been processed successfully, by receiving status code 200 (OK).

CONNECTION_FAILURE The request has been processed, but failed for unknown reasons.

BAD_REQUEST The request has been processed, but received an unexpected status code.

16.21.2 Managing scheduled requests

Listing all scheduled requests

GET /scheduled-request
Retrieves all known scheduled requests for the current user.

Query Parameters

- **state** – An optional parameter to retrieve requests belonging to a certain state.

Produces

- **application/xml, application/json** – *ScheduledRequestListDocument*

Example

```
GET /scheduled-request?state=SUCCESS
```

```
<ScheduledRequestListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <scheduledRequest>
    <id>802972</id>
    <user>admin</user>
    <state>SUCCESS</state>
    <date>2010-07-02T11:55:00.000+02:00</date>
    <created>2010-07-02T11:54:16.161+02:00</created>
    <executed>2010-07-02T11:55:36.762+02:00</executed>
    <request>
      <uri>http://localhost:8080/API/metadata-field</uri>
      <method>GET</method>
    </request>
    <response>
      <statusCode>200</statusCode>
      <hasBody>true</hasBody>
      <contentType>application/xml</contentType>
    </response>
  </scheduledRequest>
</ScheduledRequestListDocument>
```

Retrieving a specific request

GET /scheduled-request/(*request-id*)
Retrieves the request that matches the specified id.

Produces

- **application/xml, application/json** – *ScheduledRequestDocument*

Example

```
GET /scheduled-request/802972
```

```
<ScheduledRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>802972</id>
  <user>admin</user>
  <state>SUCCESS</state>
  <date>2010-07-02T11:55:00.000+02:00</date>
  <created>2010-07-02T11:54:16.161+02:00</created>
  <executed>2010-07-02T11:55:36.762+02:00</executed>
  <request>
    <uri>http://localhost:8080/API/metadata-field</uri>
    <method>GET</method>
  </request>
  <response>
    <statusCode>200</statusCode>
    <hasBody>true</hasBody>
    <contentType>application/xml</contentType>
  </response>
</ScheduledRequestDocument>
```

Retrieving the response body

GET /scheduled-request/(*request-id*)**/response**
Retrieves the response body of the scheduled request. This can only be called if the state of the request is either SUCCESS or BAD_REQUEST. The content-type is the same that was returned when the request was processed.

Produces

- ***/*** – The response body.

Example

```
GET /scheduled-request/802972/response
```

```
<MetadataFieldListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field system="true">
    <name>durationTimeCode</name>
    <type>string-noindex</type>
  </field>
  <field system="true">
    <name>user</name>
    <type>string-exact</type>
  </field>

...

</MetadataFieldListDocument>
```

Deleting all requests

DELETE /scheduled-request/
Deletes all scheduled requests for the current user.

Example

```
DELETE /scheduled-request/

200 OK
```

Deleting a specific request

DELETE /scheduled-request/(*request-id*)
Deletes the scheduled request with the specified id.

Example

```
DELETE /scheduled-request/802972

200 OK
```

16.22 Search

16.22.1 Search items and collections

Items and collections be browsed and searched with a single request. This type of search essentially has the combined set of the functionality of item search and collection search.

Browse items and collections

GET /search
Browses items and collections.

Content Parameters See *Retrieving item information*

Matrix Parameters

- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.

Query Parameters

- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Produces

- **application/xml, application/json** – *SearchResultDocument*

Role _item_search

Role _collection_read

Search items and collections

PUT /search

Searches items and collections with a shared search query.

Note: This resource doesn't support joint search, use `PUT /item`, `PUT /search/shape` or `PUT /search/file` for item, shape or file joint search respectively.

Content Parameters See *Retrieving item information*

Matrix Parameters

- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.

Query Parameters

- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Accepts

- **application/xml, application/json** – *ItemSearchDocument*

Produces

- **application/xml, application/json** – *SearchResultDocument*

Role _item_search

Role _collection_read

Example

```
PUT /search?content=metadata&field=title
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <field>
        <name>title</name>
        <value>Something</value>
    </field>
</ItemSearchDocument>

<SearchResultDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <hits>3</hits>
  <entry start="-INF" end="+INF" type="Item" id="DE-42">
    <item id="DE-42" start="-INF" end="+INF">
      <metadata>
```

```
        <revision>DE-278,DE-276,DE-277</revision>
        <timespan start="-INF" end="+INF">
          <field uuid="e527b7f3-1bfa-4067-8dde-753368c09617" user="admin" timestamp="2012-03-23T10:10
            <name>title</name>
            <value uuid="38609429-67d1-4357-980c-64e7559768ff" user="admin" timestamp="2012-03-23T10:
          </field>
        </timespan>
      </metadata>
    </item>
    <timespan start="-INF" end="+INF"/>
  </entry>
  <entry start="-INF" end="+INF" type="Collection" id="DE-13">
    <collection>
      <id>DE-13</id>
      <metadata>
        <revision>DE-273,DE-279</revision>
        <timespan start="-INF" end="+INF">
          <field uuid="c203856a-e8e3-4d50-8287-642821941791" user="admin" timestamp="2012-03-23T10:10
            <name>title</name>
            <value uuid="f80fb9a1-1eca-479a-8b1a-11d30f93fa5d" user="admin" timestamp="2012-03-23T10:
          </field>
        </timespan>
      </metadata>
    </collection>
    <timespan start="-INF" end="+INF"/>
  </entry>
  <entry start="-INF" end="+INF" type="Item" id="DE-37">
    <item id="DE-37" start="-INF" end="+INF">
      <metadata>
        <revision>DE-255,DE-280,DE-256</revision>
        <timespan start="-INF" end="+INF">
          <field uuid="f1ac0198-6b8f-43a0-9caa-e8c36e80eee8" user="admin" timestamp="2012-03-23T10:11
            <name>title</name>
            <value uuid="dcd6a3bb-bf70-4cb7-8d77-e2adfe1e3b1c" user="admin" timestamp="2012-03-23T10:
          </field>
        </timespan>
      </metadata>
    </item>
    <timespan start="-INF" end="+INF"/>
  </entry>
</SearchResultDocument>
```

16.22.2 Search shapes

New in version 4.2.2.

Search shapes

GET /search/shape

PUT /search/shape

Searches shapes. Using GET is identical as performing a search with an empty search document.

Query Parameters

- **content** – Comma-separated list of the types of content to retrieve, possible values are `component`, `metadata`, `essenceVersion`, `tag`, `mimeType` and `*`.

- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Matrix Parameters

- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.

Accepts

- **application/xml, application/json** – *ShapeSearchDocument*

Produces

- **application/xml, application/json** – *ShapeListDocument*

Role _item_shape_read

16.22.3 Search files

New in version 4.2.2.

Search files

`GET /search/file`

`PUT /search/file`

Searches files. Using GET is identical as performing a search with an empty search document.

Note: This resource searches the same index and will produce the same results as `GET /storage/(storage-id)/file`. The only difference is the syntax, that is, the query/matrix parameters versus search documents. When using a search document it is also possible to perform joins.

Query Parameters

- **methodType** – Return URLs with a particular `methodType`. By default, return URLs with empty `methodType`. see *Storage methods*.
- **scheme** – URI scheme to return.
- **count** –
  - `true` (default) - Return hits in result.
  - `false` - Do not return hits in result, in order to produce results faster.

Matrix Parameters

- **first** – Integer, from resulting list of items, start return list from specified offset. Default is `1`, start return list from beginning.
- **number** – Integer, set a limit on maximum number of hits. Default `100`.

Accepts

- **application/xml, application/json** – *FileSearchDocument*

Produces

- **application/xml, application/json** – *FileListDocument*

Role _file_read

16.22.4 Autocompletion

Autocomplete text

Text can be autocompleted against the search index.

PUT /search/autocomplete

Status Codes

- **400 Bad request** – A parameter was invalid.

Accepts

- **application/xml, application/json** – *AutocompleteRequestDocument*

Produces

- **application/xml, application/json** – *AutocompleteResponseDocument*

Role _search

Example

Assuming the user intends to type "original duration". The user first starts typing "original":

```
PUT /search/autocomplete
Content-Type: application/xml

<AutocompleteRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>orig</text>
  <maximumSuggestions>3</maximumSuggestions>
</AutocompleteRequestDocument>

<AutocompleteResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <suggestion>original</suggestion>
  <suggestion>origin</suggestion>
  <suggestion>originated</suggestion>
</AutocompleteResponseDocument>
```

Then the user continues to start typing "duration":

```
<AutocompleteRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>original dur</text>
  <maximumSuggestions>3</maximumSuggestions>
</AutocompleteRequestDocument>

<AutocompleteResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <suggestion>original duration</suggestion>
</AutocompleteResponseDocument>
```

Auto-complete on one metadata field

New in version 4.1.

Since 4.1 auto-complete on one metadata field is supported. And in order to make the auto-complete case insensitive, the metadata field should be set as `<index>extend</index>`.

Example:

A metadata field `foo_bar` with config:

```
<MetadataFieldDocument xmlns="http://xml.vidispine.com/schema/vidispine">
         <type>string-exact</type>
         <index>extend</index>
</MetadataFieldDocument>
```

and this filed contains multiple values: “Animal”, “Sky”, “Animal and Sky”, “animal and sky”

An auto-complete request with user input “animal a”:

```
PUT /search/autocomplete
Content-Type: application/xml

<AutocompleteRequestDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>foo_bar</field>
  <text>animal a</text>
</AutocompleteRequestDocument>
```

will give result:

```
<AutocompleteResponseDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <suggestion>Animal and Sky</suggestion>
  <suggestion>animal and sky</suggestion>
</AutocompleteResponseDocument>
```

16.22.5 Optimize index

New in version 4.1.

If you wish to optimize the Solr index then we recommend that this is done via this API instead of sending an optimize request to Solr directly.

Note: Solr needs twice the disk space when optimizing the index. Make sure there’s enough free space on the drive hosting the Solr index before optimizing.

Note: Solr will reject updates while optimizing, meaning that new or updated item will not appear in the search results until the optimize operation has finished.

Optimize search index

POST /search/optimize

Query Parameters

- **blocking** –

- `true` - The request will block until the Solr optimize request has finished.
- `false` (default) - Optimize will be scheduled and the request will return immediately.

- **timeout** – Integer, block for maximum number of specified milliseconds. Default is `0`, which means block indefinitely.

Status Codes

- **200 OK** – If the operation finished successfully. Only if `blocking=true`.
- **202 Accepted** – If the operation was accepted but not yet finished.
- **500 Internal Server Error** – If an error occurs.

Role _administrator

16.23 Self tests

New in version 4.0.

Changed in version 4.2: The self test has moved from `APInoauth` to `API`.

16.23.1 Running the test

Execute all tests

GET /API/selftest
Executes all the self tests.

Produces

- **application/xml, application/json** – *SelfTestDocument*

GET /APInoauth/selftest
Executes a database test. Since database problems may cause API unavailable, there is a database test available on APInoauth.

Produces

- **application/xml, application/json** – *SelfTestDocument*

Execute a specific test

GET /API/selftest/(*test-name*)
Executes the test with the specified name.

Produces

- **application/xml, application/json** – *SelfTestDocument*

16.24 Shape tags

16.24.1 Managing shape tags

Get list of known shape tags

GET /shape-tag/
Retrieves all shape tags known by the system.

Produces

- **application/xml, application/json** – *URIListDocument*
- **text/plain** – A list of the tags.

Role _shape_tag_read

Create a new shape tag

PUT /shape-tag/(*tag-name*)
Creates a new shape tag with the given tag name. If the tag already exists, its transcode preset will be updated.

Accepts

- **application/xml, application/json** – *TranscodePresetDocument*

Role _shape_tag_write

Example

Creating a shape tag that specifies FLV as the container format, FLV as the video codec and AAC as the audio codec and uses the face detect plugin.

```
PUT /shape-tag/my_flv
Content-Type: application/xml

<TranscodePresetDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <format>flv</format>
   <video>
      <codec>flv</codec>
   </video>
   <audio>
      <codec>aac</codec>
   </audio>
   <faceDetect>true</faceDetect>
</TranscodePresetDocument>
```

Retrieve a specific shape tag

GET /shape-tag/(*tag-name*)
Retrieves the transcode preset of shape tag with the given tag name.

Produces

- **application/xml, application/json** – *TranscodePresetDocument*

Role _shape_tag_read

Delete a shape tag

DELETE /shape-tag/(*tag-name*)
Deletes a shape tag with the given tag name.

Status Codes

- **200 OK** – Tag deleted successfully.
- **404 Not found** – No tag with that name exists.

Role _shape_tag_write

Caution: Note that the tag will also be removed from any existing shapes with which it is associated.

16.24.2 Tags of a shape

See *Tags of a shape* for how to manage the tags associated with a specific shape.

16.24.3 Transcode preset scripts

Retrieve the script for a shape tag

GET /shape-tag/(*tag-name*)**/script**
Retrieves the script of the shape tag.

Produces

- **application/javascript** – A JavaScript

Role _shape_tag_read

Set a script for a shape tag

PUT /shape-tag/(*tag-name*)**/script**
Sets a script for the shape tag.

Accepts

- **application/javascript** – A JavaScript

Role _shape-tag_write

Remove the script for a shape tag

DELETE /shape-tag/(*tag-name*)**/script**
Unsets the script for the shape tag.

Role _shape_tag_write

Test a script

GET /shape-tag/(*tag-name*)**/item/***item-id***/shape/***shape-id* Tests the script of the shape tag with the specified shape as input and returns the resulting preset.

Query Parameters

- **job** – The id of a job to retrieve job metadata from (optional).

Produces

- **application/xml, application/json** – *TranscodePresetDocument*

Role _shape_tag_read

16.25 Sites

16.25.1 Managing sites

Add a new site

PUT /site/(*site-name*)

Accepts

- **application/xml, application/json** – *SiteDefinitionDocument*

Example

```
PUT /site/VY
Content-Type: application/xml

<SiteDefinitionDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <url>http://10.1.2.3:8080/API/</url>
   <username>site-manager</username>
   <password>p4ssw0rd</password>
   <syncPolicy>ONDEMAND</syncPolicy>
</SiteDefinitionDocument>
```

The only supported value for `syncPolicy` is currently `ONDEMAND`.

16.26 Site rules

16.26.1 Managing site rules

In the following reference, `{site-rule-entity}` can be either of the following:

- `item`
- `item/{item-id}`
- `collection/{collection-id}`
- `library/{library-id}`

- user
- user/{username}
- group
- group/{groupname}

Retrieve site rules for a specific entity

GET {site-rule-entity}/site-rule
Retrieves all site rules for the given entity/entities.

Produces

- **application/xml, application/json** – *SiteRuleDocument*

Role _site_rule_read

Example

```
GET /item/VX-62/site-rule
```

```
<SiteRuleListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <siteRule>
    <site>VY</site>
    <metadata>true</metadata>
    <access>true</access>
    <shape>original</shape>
  </siteRule>
  <siteRule>
    <site>VZ</site>
    <metadata>true</metadata>
    <access>true</access>
    <shape>lowres</shape>
    <shape>original</shape>
  </siteRule>
</SiteRuleListDocument>
```

Set a site rule

PUT {site-rule-entity}/site-rule/
Sets a site rule for an entity.

Status Codes

- **200 OK** – Rule set successfully.
- **400 Bad request** – The request was malformed.
- **404 Not found** – Could not find the specified entity.

Accepts

- **application/xml, application/json** – *SiteRuleDocument*

Role _site_rule_write

Example

```
PUT /item/VX-67/site-rule/
Content-Type: application/xml

<SiteRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <site>VY</site>
  <metadata>true</metadata>
  <access>true</access>
  <shape>original</shape>
  <shape>lowres</shape>
</SiteRuleDocument>
```

Set the site rule for users.

```
PUT /user/site-rule/
Content-Type: application/xml

<SiteRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <site>VY</site>
</SiteRuleDocument>
```

Set the site rule for groups. Setting a generic site rule for groups will also enable syncing of all users.

```
PUT /group/site-rule/
Content-Type: application/xml

<SiteRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <site>VY</site>
</SiteRuleDocument>
```

Update a site rule

PUT {site-rule-entity}/site-rule/{id}
Updates a site rule.

Status Codes

- **200 OK** – Rule set successfully.
- **400 Bad request** – The request was malformed.
- **404 Not found** – Could not find the specified rule.

Accepts

- **application/xml, application/json** – *SiteRuleDocument*

Role _site_rule_write

Delete a site rule

DELETE {site-rule-entity}/site-rule/{id}
Deletes a site rule.

Status Codes

- **200 OK** – Rule deleted successfully.
- **400 Bad request** – The request was malformed.

- **404 Not found** – Could not find the specified rule.

Role _site_rule_write

16.27 Storages

16.27.1 Auto-import rules

Reading/modifying auto-import rules

Set an auto-import rule

PUT /storage/ (*storage-id*) **/auto-import/**
Sets the auto-import rule for the specified storage.

Accepts

- **application/xml, application/json** – *AutoImportRuleDocument*

Role _storage_write

Note: In order for auto imports to work the `showImportables` property must be set to `true` on the storage.

Example

```
PUT /storage/VX-5/auto-import
Content-Type: application/xml

<AutoImportRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <metadata>
    <timespan start="-INF" end="+INF">
      <field>
        <name>title</name>
        <value>This is an auto-imported item.</value>
      </field>
    </timespan>
  </metadata>
  <tag>myflvtag</tag>
</AutoImportRuleDocument>
```

Retrieve all auto-import rules

GET /storage/auto-import/
Returns all known auto-import rules.

Produces

- **application/xml, application/json** – *AutoImportRuleListDocument*

Role _storage_read

Retrieve an auto-import rule

GET /storage/ (*storage-id*) **/auto-import/**
Returns the auto-import rule for a storage if there is one.

Produces

- **application/xml, application/json** – *AutoImportRuleDocument*

Role _storage_read

Delete an auto-import rule

DELETE /storage/ (*storage-id*) **/auto-import/**
Removes any auto-import rule that might exist on the storage.

Role _storage_write

16.27.2 Files

Information about files in storage

List files in storage

New in version 4.1.2.

GET /storage/ (*storage-id*) **/file**

Query Parameters

- **path** – Optional string
  - *path* - Return files under this sub-path to storage.
  - / (default) - Return all files.
- **id** – Optional comma-separated list of file ids to return. If not specified, all files are returned.
- **recursive** –
  - `true` - Return all files in tree.
  - `false` - Return only files directly under specified path.
- **wildcard** –
  - `true` - Allow use of wildcards in path.
  - `false` - No wildcard handling of path.
- **type** – Optional method type, see *Storage methods*. Return URLs with a particular `methodType`. By default, return URLs with empty `methodType`.
- **hash** – Optional list of hash values. Only return files with specific hash value.
- **algorithm** – Optional hash algorithm. Search for hash values used by specified algorithm
- **count** –
  - `true` (default) - Return total number of hits in result
  - `false` - Do not return total number of hits in result, in order to produce results faster

Matrix Parameters

- **start** – Optional integer. From total list of files, start return list from specified number. Default is `0`.
- **number** – Optional integer. Return a maximum of specified number of files. Default is `100`.
- **filter** –
  - `all` (default) - Return all files
  - `item` Only return files associated with an item.
  - `noitem` Only return files not associated with any item.
- **includeItem** –
  - `true` - Return associated items, shapes, and components
  - `false` (default) - Do not return any information about associated items, shapes, and components
- **excludeQueued** –
  - `true` (default if searching importable files) - Exclude the files that are queued for import
  - `false` (default if searching all files) - Do not exclude the files that are queued for import
- **ignorecase** –
  - `true` - Search file path case insensitively
  - `false` - Search file path case sensitively
- **sort** – Optional comma-separated list.
  - `fileId` [`asc` (default) | `desc`] (default) - Order results by file id
  - `size` [`asc` (default) | `desc`] - Order results by file size (bytes)
  - `state` [`asc` (default) | `desc`] - Order results by *File States*
  - `timestamp` [`asc` (default) | `desc`] - Order results by file timestamp
  - `filename` [`asc` (default) | `desc`] - Order results by filename
  - `extension` [`asc` (default) | `desc`] - Order results by file extension.

    New in version 4.2.1.
- **storage** – Optional list of storage ids. Return only files from specific storages. Same as `storage-id` in URL, but can be specified multiple times

Produces

- **application/xml, application/json** – *FileListDocument*
- **text/plain** – CRLF-delimited list of file ids

Role _file_read

Tip: There is a limit on how many files that can be returned for each call to this method. To get all files, iterate the calls.

Example For examples on how `recursive` and `wildcard` works together, see the following table:

Path	Recursive	Wildcard	File on storage				Note
			`foo`	`foo/bar`	`foo/bar/baz`	`foo/bar/?az`	
	`false`	-	Y	N	N	N	(1)
	`true`	-	Y	Y	Y	Y	
`/`	`false`	-	Y	N	N	N	
`/`	`true`	-	Y	Y	Y	Y	
`/foo`	`false`	-	Y	N	N	N	
`/foo`	`true`	-	Y	Y	Y	Y	
`foo`	`false`	-	Y	N	N	N	(2)
`foo`	`true`	-	Y	Y	Y	Y	
`/foo/`	`false`	-	N	Y	N	N	
`/foo/`	`true`	-	N	Y	Y	Y	
`/foo/bar`	`false`	-	N	Y	N	N	
`/foo/bar`	`true`	-	N	Y	Y	Y	
`/foo/bar/`	-	-	N	N	Y	Y	
`\foo\bar\`	-	-	N	N	N	N	(3)
`/foo/bax///../bar/./`	-	-	N	N	Y	Y	
`/foo/b?r`	`false`	`true`	N	Y	N	N	(4)
`/foo/b??r`	`false`	`true`	N	N	N	N	
`/foo/*r`	`false`	`true`	N	Y	N	N	(5)
`/foo/**r`	`false`	`true`	N	Y	N	N	
`/foo/bar/?az`	`false`	`false`	N	N	N	Y	(6)
`/foo/bar/?az`	`false`	`true`	N	N	Y	Y	
`/foo/bar/\?az`	`false`	`false`	N	N	N	N	(7)
`/foo/bar/\?az`	`false`	`true`	N	N	N	Y	(8)

Notes:

1. Empty string = `/`.
2. The initial `/` is implicit.
3. `/` is the path delimiter in Vidispine, also on Windows.
4. `?` = exactly one.
5. `*` = 0 or more
6. `?` is not officially supported, see *URI's, URL's, and Special Characters*.
7. With wildcard=false, \ is literal. However, \ is not officially supported, see *URI's, URL's, and Special Characters*.
8. With wildcard=true, use \ to quote (" \ " **has** to be quoted).

Legend:

- Does not matter for this example

Y is included in search result

N is not include in search result

Get status of file in storage

GET /storage/ (*storage-id*) **/file/**
file-id

Query Parameters

- **methodType** – Type of access method.
  - `AUTO` - Gives an APInoauth URI to the media. Access to file is tunneled through Vidispine.
  - `AZURE_SAS` - (New in 4.0.1.) If the storage schema is azure:// you can get direct access to the media. The resulting URI will not tunnel through Vidispine but rather point directly to the media location at the azure storage.

Matrix Parameters

- **includeItem** –
  - `true` - Return associated items, shapes, and components
  - `false` (default) - Do not return any information about associated items, shapes, and components

Produces

- **application/xml, application/json** – *FileDocument*
- **text/plain** – *Tabbed tuples* of file id, file path, file size, file status, timestamp

Role _file_read

Upload file to storage

New in version 4.1.2.

POST /storage/ (*storage-id*) **/file/data**

Query Parameters

- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.
- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Accepts

- **application/octet-stream** – The raw essence data.

Produces

- **text/plain** – file id

Role _file_write

Set new file path

POST /storage/ (*storage-id*) **/file/**
*file-id***/path**

Query Parameters

- **storage** – Optional storage id. The new storage, if omitted, the same storage.
- **path** – The new path. Required.
- **state** – Optional new state of the file. (OPEN, CLOSED, etc).

Produces

- **application/xml, application/json** – *FileDocument*
- **text/plain** – File id

Role _file_write

Semantics This command is used when a file is moved manually (without Vidispine), and caller wants to register the new path.

The path of file entities in Vidispine is immutable. The command above registers a new file, with the new path, and change all relevant components to point to the new file instead. The old file is marked for deletion. Hence, caller should first do the physical move, then issue this command.

Get information about item-file relationship

GET /storage/ (*storage-id*) **/file/**
*file-id***/item ...** Return items belonging to id. See *Identifiers*.

Matrix Parameters

- **uri** – Absolute URI to file. Must exactly match one of the method URIs defined for the storage.
- **path** – Relative path to file

File data

Get file data

GET /storage/ (*storage-id*) **/file/**
*file-id***/data**

Produces

- ***/*** – Can be anything, really

Role _file_read

Upload file data

New in version 4.1.2.

POST /storage/ (*storage-id*) **/file/**
*file-id***/data**

Query Parameters

- **transferId** – An id to assign the transfer to be able to refer to it. Mandatory for chunked and passkey imports.

- **transferPriority** – An integer between 1 and 1000 that indicates what priority the transfer should be given in relation to other transfers (optional). A transfer with a high priority value is considered more important than a transfer with a low priority value.

Status Codes

- **400** – If the amount of data received does not match the given Content-Length header.

  New in version 4.2.3.

Accepts

- **application/octet-stream** – The raw essence data.

Produces

- **application/xml, application/json** – *FileDocument*

Role _file_write

Importable files

Get files that can be imported

GET /storage/importable

Retrieves a list of files, together with any found metadata, for files that do not belong to any component.

Produces

- **application/xml, application/json** – An *ImportableFileListDocument* describing the job.

Role _storage_read

Same query and matrix parameters as for *List files in storage*.

Importing a file from a storage

Start an import job

POST /storage/(*storage-id*)**/file/***file-id***/import**

Starts a an import job that will import the specified file. Only files that do not belong to any components can be imported.

Query Parameters

- **ids** – A comma-delimited list of external ids to assign to the item.
- **tag** – An optional list of *shape tags* to use for transcoding.
- **original** – An optional tag, if specified it should be one of the tags specified in the tag parameter. Specifies that the original shape tag will be reset to the shape created to this tag.
- **thumbnails** –
  - `true` (default) - Generate thumbnails as per defined by shape tag
  - `false` - Disable thumbnail generation
- **thumbnailService** – An optional identifier to which thumbnail resource that should be used.
- **createPosters** – An optional list of *time codes* to use for creating posters.
- **notification** – See *Notifications* . (Optional)

- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Accepts

- **application/xml, application/json** – *MetadataDocument*, initial metadata that is given to the imported item

Produces

- **application/xml, application/json** – A *JobDocument* that describes the import job.

Role _import

Move/copy/delete files from a storage

Create a file move/copy job

POST /storage/ (*source-storage-id*) **/file/**
*file-id***/storage/***target-storage-id* Starts a move or copy job for the specified file.

Query Parameters

- **move** –
  - `true` - Delete the original file when the copy has finished.
  - `false` - Just copy the file, and leave the original.
- **filename** – Optional filename, the desired target filename
- **timeDependency** – Option number of seconds the target file is required to exist before being moved due to storage rules etc.
- **limitRate** – (New in 4.0.) Optional integer, throttle the rate at which the transfer takes place (bytes/second).
- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)
- **priority** – The priority to assign to the job. Default is `MEDIUM` .
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocument*

Role _file_write

Create a file delete job

DELETE /storage/ (*source-storage-id*) **/file/**
file-id Starts a delete job for the specified file.

Query Parameters

- **notification** – See *Notifications* . (Optional)
- **notificationData** – See *Notifications* . (Optional)

- **priority** – The priority to assign to the job. Default is `MEDIUM`.
- **jobmetadata** – Additional information for the job task. See *Special job metadata values*

Produces

- **application/xml, application/json** – *JobDocument*

Role _file_write

Delete a file entity from the database

DELETE /storage/ (*source-storage-id*) **/file/**
*file-id***/entity** Deletes a file entity from the database. Does not touch the physical file.

Role _file_write

Unassociate a file with an item

PUT /storage/ (*source-storage-id*) **/file/**
*file-id***/abandon** Unassociates (disconnects) the physical file from the item. The shape which the file resided in will still exist, but there is no longer any connection between the file and the shape or item.

Query Parameters

- **item** – The item from which the file in unassociated

Role _file_write

16.27.3 Storages

Managing storages

Retrieve list of storages

GET /storage

Query Parameters

- **size** – Optional range of bytes, in format *s1*−*s2*. Returns storages with nominal size that is in that range. Either number can be omitted to not specify lower/upper limit. *Size units* can be used. Default is −, all storages.
- **freebytes** – Optional range of bytes, in format *s1*−*s2*. Returns storages with free space that is in that range. Either number can be omitted to not specify lower/upper limit. *Size units* can be used. Default is −, all storages.
- **usedbytes** – Optional range of bytes, in format *s1*−*s2*. Returns storages with used space that is in that range. Either number can be omitted to not specify lower/upper limit. *Size units* can be used. Default is −, all storages.
- **freeamount** – Optional range of percent as integers, in format *s1*−*s2*. Returns storages with used space that is in that range. Either number can be omitted to not specify lower/upper limit. Default is −, all storages.
- **files** – Optional range of files as integers, in format *s1*−*s2*. Returns storages with number of files that is in that range. Either number can be omitted to not specify lower/upper limit. Default is −, all storages.

- **storagegroup** – Optional list of storage groups.
  - *storage-group* - Returned storage is member of specified storage group.
  - *−storage-group* Returned storage is not member of specified storage group.
  - default Return all storages.
- **status** – Optional list of storage status, see *Storage states*
  - *status* - Returned storage has this status.
  - *−status* - Returned storage does not have this status.
  - default - Return all storages.

Produces

- **application/xml, application/json** – *StorageListDocument*
- **text/plain** – CRLF-delimited list of storage ids

Role _storage_read

Example

```
GET /storage
```

```
<StorageListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storage>
    <id>VX-1</id>
    <state>NONE</state>
    <type>LOCAL</type>
    <capacity>1600000000000</capacity>
    <freeCapacity>19993896424</freeCapacity>
    <method>
      <id>VX-6</id>
      <uri>file:///mnt/main/</uri>
      <bandwidth>0</bandwidth>
      <read>true</read>
      <write>true</write>
      <browse>true</browse>
      <lastSuccess>2014-07-04T08:39:00.739+02:00</lastSuccess>
      <type>NONE</type>
    </method>
    <metadata/>
    <lowWatermark>0</lowWatermark>
    <highWatermark>0</highWatermark>
    <showImportables>true</showImportables>
  </storage>
  <storage>
    <id>VX-2</id>
    <state>NONE</state>
    <type>LOCAL</type>
    <capacity>15000000000</capacity>
    <freeCapacity>19548305962</freeCapacity>
    <method>
      <id>VX-4</id>
      <uri>file:///mnt/ingest/</uri>
      <read>true</read>
      <write>true</write>
      <browse>true</browse>
```

```
      <lastSuccess>2014-07-04T08:38:56.773+02:00</lastSuccess>
      <type>NONE</type>
    </method>
    <metadata/>
    <lowWatermark>0</lowWatermark>
    <highWatermark>200000000000</highWatermark>
    <showImportables>true</showImportables>
  </storage>
</StorageListDocument>
```

Create storage

POST /storage

Creates a new storage.

Accepts

- **application/xml, application/json** – *StorageDocument*

Produces

- **application/xml, application/json** – *StorageDocument*
- **text/plain** – Storage id

Role _storage_write

Note: If your storage is to be used for autoimport, the `showImportables` property in the *StorageDocument* must be set to `true`. The files on the storage will then be discovered and available for use with `GET /storage/importable` or `GET /storage/auto-import/`.

Example

```
POST /storage
Content-Type: application/xml

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>LOCAL</type>
  <capacity>150000000000</capacity>
  <method>
    <uri>file:///mnt/ingest/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
  </method>
  <lowWatermarkPercent>90</lowWatermarkPercent>
  <highWatermarkPercent>75</highWatermarkPercent>
  <showImportables>true</showImportables>
</StorageDocument>

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-2</id>
  <state>NONE</state>
  <type>LOCAL</type>
  <capacity>150000000000</capacity>
  <freeCapacity>150000000000</freeCapacity>
  <method>
```

```
    <id>VX-4</id>
    <uri>file:///mnt/ingest/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <type>NONE</type>
  </method>
  <metadata/>
  <lowWatermark>112500000000</lowWatermark>
  <highWatermark>135000000000</highWatermark>
  <lowWatermarkPercentage>75</lowWatermarkPercentage>
  <highWatermarkPercentage>90</highWatermarkPercentage>
  <showImportables>true</showImportables>
</StorageDocument>
```

Get storage

GET /storage/ (*storage-id*)

Produces

- **application/xml, application/json** – *StorageDocument*

Role _storage_read

Example

```
GET /storage/VX-2
```

```
<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-2</id>
  <state>NONE</state>
  <type>LOCAL</type>
  <capacity>150000000000</capacity>
  <freeCapacity>150000000000</freeCapacity>
  <method>
    <id>VX-4</id>
    <uri>file:///mnt/ingest/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <type>NONE</type>
  </method>
  <metadata/>
  <lowWatermark>112500000000</lowWatermark>
  <highWatermark>135000000000</highWatermark>
  <lowWatermarkPercentage>75</lowWatermarkPercentage>
  <highWatermarkPercentage>90</highWatermarkPercentage>
  <showImportables>true</showImportables>
</StorageDocument>
```

Modify storage

PUT /storage/ (*storage-id*)

Updates an existing storage.

Accepts

- **application/xml, application/json** – *StorageDocument*

Produces

- **application/xml, application/json** – *StorageDocument*
- **text/plain** – Storage id

Example

```
PUT /storage/VX-2
Content-Type: application/xml

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <type>LOCAL</type>
  <capacity>150000000000</capacity>
  <lowWatermarkPercentage>80</lowWatermarkPercentage>
  <highWatermarkPercentage>95</highWatermarkPercentage>
</StorageDocument>

<StorageDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <id>VX-2</id>
  <state>NONE</state>
  <type>LOCAL</type>
  <capacity>150000000000</capacity>
  <freeCapacity>150000000000</freeCapacity>
  <method>
    <id>VX-4</id>
    <uri>file:///mnt/ingest/</uri>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <type>NONE</type>
  </method>
  <metadata/>
  <lowWatermark>120000000000</lowWatermark>
  <highWatermark>142500000000</highWatermark>
  <lowWatermarkPercentage>80</lowWatermarkPercentage>
  <highWatermarkPercentage>95</highWatermarkPercentage>
  <showImportables>true</showImportables>
</StorageDocument>
```

Delete storage

DELETE /storage/ (*storage-id*)

Deletes the storage. All files in storage will remain after call, but the Vidispine system will no longer manage them.

Query Parameters

- **safe** –
  - `true` - Storage will only be deleted if there are no files connected to items on the storage.
  - **`false` (default) -** Storage will be deleted, and any file entities will be disconnected from items and deleted.

Status Codes

- **409 Conflict** – If `safe` parameter is `true` this error code will be given if there are files connected to items on the storage.

Role _storage_write

Storage information

Set the storage type

PUT /storage/ (*storage-id*) **/type/**
type Sets the type of the storage.

Role _storage_write

Get storage status

GET /storage/ (*storage-id*) **/status**

Produces

- **text/plain** – Status string

Role _storage_read

Get amount of free space on storage

GET /storage/ (*storage-id*) **/freespace**

Produces

- **text/plain** – Amount of free space as decimal number, between 0 and 100, inclusive

Role _storage_read

Rescanning

The `scanInterval` property can be used to control how often (in seconds) a storage is scanned. Default is 60 seconds. By calling `/rescan`, the system is forced to rescan a storage without delay.

Rescan a storage

POST /storage/ (*storage-id*) **/rescan**
Triggers a rescan of a single storage.

Rescan all storages

POST /storage/rescan
Triggers a rescan of all storages.

Storage methods

New in version 4.1: Credentials are encrypted. This means that passwords cannot be viewed through the API/server logs.

Get storage methods

GET /storage/ (*storage-id*) **/method**

Query Parameters

- **url** – Optional URL. Only return methods with this URL. Wildcards (`?`, `*`) can be used, for example `http:*`.

Matrix Parameters

- **read** –
  - `true` - Only return methods which have file read capability.
  - `false` (default) - Return methods regardless of file read capability.
- **write** –
  - `true` - Only return methods which have file write capability.
  - `false` (default) - Return methods regardless of file write capability.
- **read** –
  - `true` - Only return methods which have file browse capability.
  - `false` (default) - Return methods regardless of file browse capability.

Produces

- **text/plain** – CRLF-delimited list of *Tabbed tuples* : id, URL, status

Role _storage_read

Example

```
GET /storage/VX-2/method
```

```
<StorageMethodListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <method>
    <id>VX-4</id>
    <uri>file:///mnt/ingest/</uri>
    <bandwidth>0</bandwidth>
    <read>true</read>
    <write>true</write>
    <browse>true</browse>
    <lastSuccess>2014-07-04T09:55:09.779+02:00</lastSuccess>
    <type>NONE</type>
  </method>
</StorageMethodListDocument>
```

Add new/update storage method

PUT /storage/ (*storage-id*) **/method**
Adds a new access method to the storage. If URL matches an existing method, a new method is not created, instead the existing one is updated.

Query Parameters

- **url** – Mandatory URL, method is access through this URL
- **read** –
  - `true` (default) - Method has file read capability
  - `false` - Method does not have file read capability
- **write** –
  - `true` (default) - Method has file write capability
  - `false` - Method does not have file write capability
- **browse** –
  - `true` (default) - Method has file browse capability
  - `false` - Method does not have file browse capability
- **type** – Optional method type, see *Storage methods*. Default is empty.

Produces

- **text/plain** – *Tabbed tuples* : id, URL, status string of method

Role _storage_write

Example

```
PUT /storage/VX-2/method?url=http://10.12.0.3/ingest/&read=true&write=false&browse=false

VX-5        http://10.12.0.3/ingest/        NONE
```

Add new/update storage method

PUT /storage/ (*storage-id*) **/method/**
method-id Updates access method to the storage.

Produces

- **text/plain** – *Tabbed tuples* : id, URL, status string of method

Role _storage_write

See query parameters above.

Remove storage method

DELETE /storage/ (*storage-id*) **/method/**
method-id

DELETE /storage/ (*storage-id*) **/method;url=**
url Delete an access method to storage.

Role _storage_write

Importing/exporting a storage definition

Vidispine can export a definition document describing all the files within a storage, which can later be imported to a new storage on a different Vidispine instance.

Export a storage definition

GET /storage/ (*storage-id*) **/export**
Creates a *StorageImportDocument* that describes every file on the storage. This should be saved to a file which can later be used to import the storage definition.

Produces

- **application/xml, application/json** – *StorageImportDocument*

Role _storage_read

Import a storage definition

POST /storage/import
Creates a new storage based on the *StorageImportDocument*. A file entity will be created for each entry in the document, if a file with that ID does not already exist. Finally, a storage method will be added, with the path supplied in the call.

Query Parameters

- **path** – The file system path to where the files are located.

Accepts

- **application/xml, application/json** – A *StorageImportDocument*

Role _storage_write

Evacuating storages

If you would like to delete a storage, but you still have files there which are connected to items, you can first trigger an evacuation of the storage. This will cause Vidispine to attempt to delete redundant files, or move files to other storages. Once the evacuation is complete, the storage will get the state `EVACUATED`.

Evacuate storage

PUT /storage/ (*storage-id*) **/ evacuate**
Trigger evacuation of a storage.

Role _storage_write

Cancel evacuation of a storage

DELETE /storage/ (*storage-id*) **/ evacuate**
Cancel the evacuation process on a storage.

Role _storage_write

Key-value metadata

Storages support *key-value metadata*.

Reserved keys

Certain keys are used to control the behavior of a storage, they must not be used to store generic metadata.

closeLimit
An integer specifying the number of minutes until the system automatically considers an open file to be closed.

Default 5

lostLimit
An integer specifying the number of minutes until the system automatically considers a missing file to be lost.

Default 10

toAppearLimit
An integer specifying the number of minutes the system waits for a file to appear before considering it to be missing.

Default 10

hashMode
Set to `false` to disable hash computation for this storage.

Default true

additionalHash
A comma-separated list of additional hashing algorithms that should be applied to files. E.g.: `MD5,SHA-256`

Default (none)

fileListBatchSize
Maximum size of list of files that are updated in the database at the same time.

Default 100000

Since 4.0.3

keepMissingFiles
If set to `false` then missing files that do *not* belong to any items will be removed from the database instead of being marked as lost.

Default To the value of the configuration property `keepMissingFiles`.

Since 4.1

keepEmptyDirectories
Do not delete empty parent directories when deleting the last file in a directory, see *Parent directory management*.

Default To the value of the configuration property `keepEmptyDirectories`.

Since 4.2.5

statsPerSecond
An integer specifying the maximum number of `stat` system calls that are made to the storage (only `file://` URIs). See also the configuration property `statsPerSecond`.

Default (none)

Since 4.1.1

refreshOnStart
By default, Vidispine synchronizes the database with the file system on start-up. On very large systems, this can take a very long time. Set this parameter to `false`, and use the rescan functionality (see below) instead.

Default true

Since 4.1.1

deleteFileIfNotFound
If set to `true`: if file that is marked for deletion cannot be deleted, but is not found on the file system, it is assumed to be deleted.

Default false

Since 4.1.2

excludeFilter
A regular expression. Any file with a path (relative to the storage's root folder) that matches the expression will be ignored. Note that the expression must match the entire path, not only a part of the path.

Default (none)

Since 4.2

detectRenamedFiles
If this metadata is set to `true`, whenever a file belonging to an item is marked as `LOST`, and there is another file on the same storage with the same hash value, the new file is associated with the item instead.

Other possible values are *all*, where the old (lost) file resided on any storage, or a comma-separated list of identifiers of storages on which the old (lost) file resided on.

Default (none)

Since 4.2

probeFileBeforeClosing
If this metadata is set to `true`, Vidispine will attempt to read `OPEN` files before marking them as `CLOSED`. This is useful for Windows storages where the metadata is constant while a file is copied to the storage, but the file cannot be read (file is busy).

Default false

Since 4.2.1

Size units

In the query parameters above, size can be specified in number of bytes as `integer [ [ whitespace ] unit ]` where the multiplier unit can be one of (case insensitive):

Unit	Factor
KB	1000^1
K, KiB	2^{10}
MB	1000^2
M, MiB	2^{20}
GB	1000^3
G, GiB	2^{30}
TB	1000^4
T, TiB	2^{40}
PB	1000^5
P, PiB	2^{50}
EB	1000^6
E, EiB	2^{60}
ZB	1000^7
Z, ZiB	2^{70}
YB	1000^8
Y, YiB	2^{80}

It should be noted that currently, Vidispine has a 64-bit limit on the size of a storage, which means that multipliers larger than ZB are of limited use.

16.27.4 Storage groups

Storages can be organized in zero or more storage groups. Use storage groups to

- Allow users to group storages in your applications.
- Apply storage rules to these groups.

Managing storage groups

Get a list of known groups

GET /storage/storage-group/
Retrieves all storage groups known by the system.

Produces

- **application/xml, application/json** – *StorageGroupListDocument*

Role _storage_group_read

Create a storage group

PUT /storage/storage-group/(*group-name*)
Creates a new storage group with the specified name. If the group already exists this operation does nothing.

Status Codes

- **200 OK** – Group created successfully.

Role _storage_group_write

Remove a storage group

DELETE /storage/storage-group/ (*group-name*)
Removes the storage group with the given name. Note that this operation does not remove the actual storages contained in the group.

Status Codes

- **200 OK** – Group removed successfully.
- **404 Not found** – No group with that name exists.

Role _storage_group_write

Storage group content

List all storages within a group

GET /storage/storage-group/ (*group-name*)
Lists all storages belonging to a certain group.

Status Codes

- **404 Not found** – No group with that name exists.

Produces

- **application/xml, application/json** – *StorageGroupDocument*

Role _storage_group_read

Add a storage to a group

PUT /storage/storage-group/ (*group-name*) **/**
storage-id Adds a storage to a group. If that group already contains the specified storage this operation does nothing.

Status Codes

- **200 OK** – Group added successfully.
- **404 Not found** – No group with that name or no storage with that id exists.

Role _storage_group_write

Remove a storage from a group

DELETE /storage/storage-group/ (*group-name*) **/**
storage-id Removes a storage from a group.

Status Codes

- **200 OK** – Group removed successfully.
- **404 Not found** – No group with that name exists, or the group does not contain that storage.

Role _storage_group_write

Storage group metadata

Storages groups support *key value metadata*.

16.27.5 Storage name rules

Working with storage name rules

Retrieve all name rules applied on a shape

GET /item/ (*item-id*) **/shape/**
*shape-id***/filename** Retrieves a list of URIs to all storage name rules that are contained within a shape.

Produces

- **application/xml , application/json , text/plain** – URIListDocument

Role _storage_rule_read

Create a new storage name rule

PUT /item/ (*item-id*) **/shape/**
*shape-id***/filename/***storage-id* Creates a new storage name rule that attempts enforce the filename on a certain storage. This operation does not rename the file, it merely creates a rule for it. The file will then be renamed at a later time, if the file is located on that storage.

Query Parameters

- **filename** – The desired filename of the file.

Status Codes

- **200 OK** – Rule added successfully.
- **400 Bad request** – A conflicting rule exists.

Role _storage_rule_write

Delete a storage name rule

DELETE /item/ (*item-id*) **/shape/**
*shape-id***/filename/***storage-id* Deletes a storage name rule that matches the (item id, shape id, storage id, filename) quadruple. Note that this does not change any existing filenames a file might have.

Query Parameters

- **filename** – The filename of the rule.

Status Codes

- **200 OK** – Rule removed successfully.

Role _storage_rule_write

16.27.6 Storage rules

Creating/modifying/reading storage rules

Storage rules can be applies on entities within the item, collection, library and shape tag resources. Note that for the shape tag resource no default rule can be set.

Retrieving storage rules across different resources

GET /storage-rule/
Retrieves all storage-rules that matches the given parameters.

Query Parameters

- **type** – A comma-separated list of types to retrieve, if not specified all types will be retrieved. Valid values are `ITEM`, `COLLECTION`, `LIBRARY` and `GENERIC`.
- **tag** – A comma-separated list of tags to retrieve, if not specified rules of all tag types will be retrieved.

Produces

- **application/xml, application/json** – *StorageRulesDocument*

Role _storage_rule_read

Example

```
GET /storage-rule?type=LIBRARY,COLLECTION&tag=original,lowres
```

```
<StorageRulesDocument>
   <tag id="lowres">
      <storageCount>1</storageCount>
      <storage>VX-1</storage>
      <appliesTo>
         <id>VX-20</id>
         <type>COLLECTION</type>
      </appliesTo>
      <precedence>HIGH</precedence>
   </tag>
   <tag id="original">
      <storageCount>2</storageCount>
      <appliesTo>
         <id>*68</id>
         <type>LIBRARY</type>
      </appliesTo>
      <precedence>MEDIUM</precedence>
   </tag>
</StorageRulesDocument>
```

Retrieving all storage rules that applies to a certain shape

GET /item/ (*item-id*) **/shape/**
*shape-id***/storage-rule** Retrieves the storage rules that applies to a certain shape in a sorted manner. The rules are sorted according to priority, with the most important rule being first and the least important rule being last.

Query Parameters

- **all** –
  - `true` - Return all rules, regardless whether another rule overwrites it or not.
  - `false` (default) - Return only rules that are in effect.

Produces

- **application/xml, application/json** – *StorageRulesDocument*

Role _storage_rule_read

Retrieving all storages rules

GET {rule-entity}/(*entity-id*)**/storage-rule/**
Retrieves all storage rules that are applied on a certain entity in a certain resource.

Produces

- **application/xml, application/json** – *StorageRulesDocument*

Role _storage_rule_read

Example

```
GET /storage-rule/
```

```
<StorageRulesDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <default>
    <storageCount>2</storageCount>
    <priority level="1">capacity</priority>
    <priority level="2">bandwidth</priority>
    <storage>VX-122</storage>
  </default>
  <tag id="lowres">
    <storageCount>3</storageCount>
    <storage>VX-123</storage>
  </tag>
  <tag id="web">
    <priority level="1">bandwidth</priority>
    <priority level="2">capacity</priority>
    <storage>VX-124</storage>
  </tag>
</StorageRulesDocument>
```

Setting a default rule

PUT {rule-entity}/(*entity-id*)**/storage-rule**
Sets the default rule.

Status Codes

- **200 OK** – Rule set successfully.
- **400 Bad request** – The request was malformed.
- **404 Not found** – Could not find a specified storage.

Accepts

- **application/xml, application/json** – *StorageRuleDocument*

Role _storage_rule_write

Example

```
PUT /collection/VX-45/storage-rule
Content-Type: application/xml

<StorageRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storageCount>2</storageCount>
  <priority level="1">capacity</priority>
  <priority level="2">bandwidth</priority>
  <storage>VX-122</storage>
</StorageRuleDocument>
```

Retrieving a a specific rule

GET {rule-entity}/(*entity-id*)**/storage-rule/**
shape-tag Returns the rule that is applied to a certain shape tag.

Status Codes

- **404 Not found** – No shape tag with that that name could be found.

Produces

- **application/xml, application/json** – *StorageRuleDocument*

Role _storage_rule_read

Example

```
GET /collection/VX-45/storage-rule/lowres

<StorageRuleDocument id="lowres" xmlns="http://xml.vidispine.com/schema/vidispine">
   <storageCount>3</storageCount>
   <priority level="1">capacity</priority>
   <priority level="2">bandwidth</priority>
   <storage>VX-123</storage>
</StorageRuleDocument>
```

Setting a specific rule

PUT {rule-entity}/(*entity-id*)**/storage-rule/**
shape-tag

Status Codes

- **200 OK** – Rule set successfully.
- **400 Bad request** – The request was malformed.
- **404 Not found** – Could not find a specified storage or a shape tag with that name.

Accepts

- **application/xml, application/json** – *StorageRuleDocument*

Role _storage_rule_write

Example

```
PUT /collection/VX-45/storage-rule/lowres
Content-Type: application/xml

<StorageRuleDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <storageCount>3</storageCount>
  <storage>VX-123</storage>
</StorageRuleDocument>
```

Delete a specific rule

DELETE {rule-entity}/(*entity-id*)**/storage-rule/**
shape-tag Deletes a specific rule.

Status Codes

- **200 OK** – Rule set successfully.
- **404 Not found** – Could not find a shape tag with that name or a specific rule applied to that tag.

Role _storage_rule_write

16.28 Task definitions

Jobs are made up of a number of tasks that execute in a specific order.

16.28.1 Task definitions

Retrieve task definitions

GET /task-definition
Retrieves all tasks that have been defined in the system.

Query Parameters

- **type** – Optional *Job types* to retrieve task definitions for.

Produces

- **application/xml, application/json** – *TaskDefinitionListDocument*

Role _taskdefinition_read

Define new task

POST /task-definition
Defines one or more new task.

Accepts

- **application/xml, application/json** – *TaskDefinitionListDocument*

Produces

- **application/xml, application/json** –

schema *URIListType*

Role _taskdefinition_write

Retrieve a task

GET /task-definition/{task-id}
Retrieves the definition document for a task with a specific id.

Produces

- **application/xml, application/json** – *TaskDefinitionListDocument*

Role _taskdefinition_read

Delete a task

DELETE /task-definition/{task-id}
Deletes the task.

Role _taskdefinition_write

Update an existing task

New in version 4.0.

PUT /task-definition/{task-id}
Updates the task.

Accepts

- **application/xml, application/json** – *TaskDefinitionDocument*

Produces

- **application/xml, application/json** – *TaskDefinitionDocument*

Role _taskdefinition_write

16.28.2 Job graphs

In order to easily see the dependencies between steps for a particular job type, there is functionality to render the job definition as a graph. In order to render the graph, the Graphviz (http://www.graphviz.org/) package is required.

Get job graph

GET /task-definition/jobtype/ (*jobtype*) **/graph**
Shows the dependencies of the tasks of a specified *Job types*.

Produces

- **image/png** –

Role _administrator

Get job graph as DOT file

GET /task-definition/jobtype/ (*jobtype*) **/graph/dot**
Shows the dependencies of the tasks of a specified *job type* in DOT format, for further processing.

Produces

- **text/plain** –

Role _administrator

16.29 Transfers

A transfer is normally started while doing a *Import using the request body*.

16.29.1 Overview

Transfer state

A transfer can be in one of the following states.

TRANSFERRING Data is currently being sent.

WAITING The transfer is waiting to start.

FINISHED All the data has been transferred.

ABORTED The transfer has been aborted by the user.

FAILED An error has occurred causing the transfer to fail.

FINISHED_PART A piece of the data has been sent.

Priorities

Transfers are assigned bandwidth according to their priorities. A priority is an integer between 1 and 1000. Transfers with a higher priority value is prioritized over transfers with a lower priority value.

16.29.2 Managing transfers

Retrieve all transfers of a specific state

GET /transfer
Returns all transfers that are in a particular state.

Query Parameters

- **state** – Optional *Transfer state* of the transfers to retrieve. Default is "TRANSFERRING".

Matrix Parameters

- **number** – Optional integer, the number of transfers to return. Default is all transfers.
- **first** – Optional integer, the number of the first transfer to return. Default is `1`.

Produces

- **application/xml, application/json** – A *TransferListDocument*

Role _transfer_read

Retrieve a specific transfer

GET /transfer/ (*transfer-id*)
Retrieves a specific transfer.

Produces

- **application/xml, application/json** – A *TransferDocument*

Role _transfer_read

Set the priority of a transfer

PUT /transfer/ (*transfer-id*)
Sets a new priority for a specific transfer.

Query Parameters

- **transferPriority** – The desired priority.

Role _transfer_write

16.30 Users

16.30.1 Managing users

Retrieve a list of all users

GET /user
Retrieves a list of all known users.

Query Parameters

- **name** – List of user names to return information about. Default is all users.
- **first** – Start returning users from specified number. Default is `1`, the beginning of the list.
- **number** – Return at most specified number of users. Default is no limit.

Produces

- **application/xml, application/json** – *UserListDocument*

Role _administrator

Create a new user

POST /user
Creates a new user based on the information in the *UserDocument*.

Status Codes

- **200 OK** – User created.

- **409 Conflict** – A user with that username already exists.

Accepts

- **application/xml, application/json** – *UserDocument*

Role _administrator

Example

```
POST /user?passwordType=raw
Content-Type: application/xml

<UserDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <userName>myuser</userName>
  <realName>My User</realName>
  <password>qwerty</password>
  <groupList>
    <group>
      <groupName>mygroup</groupName>
    </group>
  </groupList>
</UserDocument>
```

Retrieve a specific user

GET /user/ (*username*)
Returns a specific user.

Produces

- **application/xml, application/json** – XML/JSON, schema *UserDocument*

Role _administrator

Create a new user

PUT /user/ (*username*)
Creates a new user with the given username.

Status Codes

- **200 OK** – User created.
- **409 Conflict** – A user with that username already exists.

Role _administrator

Disable a user

DELETE /user/ (*username*)
Disables a user with the given username, rendering that user unable to login.

Role _administrator

Re-enable a user

PUT /user/(*username*)**/enable**
Re-enables a user with the given username, that has previously been disabled.

Role _administrator

Search users

New in version 4.0.

PUT /user
Simple search of fields *username*, *realname* and metadata.

Accepts

- **application/xml, application/json** – *UserSearchDocument*

Produces

- **application/xml, application/json** – *UserListDocument*

Role _administrator

Example

```
PUT /user
Content-Type: application/xml

<UserSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <field>
        <name>username</name>
        <value>vidi</value>
    </field>
    <field>
        <name>key</name>
        <value>value</value>
    </field>
</UserSearchDocument>
```

Note that keywords `username` and `realname` are reserved to do search on `username` and `realname` fields

The boolean operators AND and OR are supported:

```
<UserSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
    <field>
        <name>username</name>
        <value>vidi</value>
    </field>
    <field>
        <name>realname</name>
        <value>vidispine</value>
    </field>
    <operator operation="OR">
        <field>
          <name>key1</name>
          <value>value1</value>
        </field>
        <field>
```

```
          <name>key2</name>
          <value>value2</value>
        </field>
    </operator>
</UserSearchDocument>
```

16.30.2 User information

Retrieve the real name of a user

GET /user/(*username*)**/realname**
Returns the real name of a user.

Produces

- **text/plain** – The real name of the user.

Role _administrator

Change the real name of a user

PUT /user/(*username*)**/realname**
Changes the real name of a user.

Accepts

- **text/plain** – The new name.

Role _administrator

16.30.3 User credentials

Change the password of a user

PUT /user/(*username*)**/password**
Changes the password for a user. Hashed passwords are assumed to be represented as hexadecimal strings.

Any hashed passwords need to be salted using the salt of the user, see *Retrieve the salt of a user*.

Query Parameters

- **type** –
  - `raw` - Password is in plaintext.
  - `md5` (default) - Password is already hashed.

Accepts

- **text/plain** – The new password.

Role _administrator

Validate the password of a user

PUT /user/ (*username*) **/validate**
Validates the given password against the password of the user. Hashed passwords are assumed to be represented as hexadecimal strings.

Any hashed passwords need to be salted using the salt of the user, see *Retrieve the salt of a user*.

Query Parameters

- **type** –
  - `raw` - Password is in plaintext.
  - `md5` (default) - Password is hashed.

Status Codes

- **200 OK** – The password is correct.
- **403 Forbidden** – The password is incorrect.

Accepts

- **text/plain** – The password of the user.

Role _administrator

Retrieve the salt of a user

GET /user/ (*username*) **/password/salt**
Retrieves the salt of the specified user.

Status Codes

- **200** – Salt is returned.
- **204** – No salt is set for the user.

Produces

- **application/octet-stream** – The salt of the user.

Role _administrator

Generate a salt for a user

POST /user/ (*username*) **/password/salt**
Generates a new salt for the user, overwriting any existing salt.

Note that this will invalidate any set password for the user and requires a new password to be set for the user to be able to login. This method is typically not relevant if passwords are updated using plaintext.

Produces

- **application/octet-stream** – The salt of the user.

Role _administrator

Get an authentication token for a user

GET /user/(*username*)**/token**
Creates a authentication for a user. This token can be used for calling the API without specifying username or password.

Query Parameters

- **seconds** – The duration of the token.
- **autoRefresh** –
  - `false` (default) - The token always expires after `seconds` seconds after the token was created.
  - `true` - (New in 4.2.2.) The expiration clock is reset with every API call.

Produces

- **text/plain** – The generated token.

Semantics

Calling this API resource will generate an authentication token. The username path parameter must match the calling user's credentials, unless the calling user has `_administrator` role. The token always has an expiration time.

New in version 4.2.2.

The rules for the expiration time depends on configuration property `userTokenMaxInterval` (default 60 seconds):

- **Not specified -** The token expires after the time entered in the configuration property `userTokenDefaultInterval` (default 60 seconds)
- **Less than or equal to `userTokenMaxInterval` -** Always allowed
- **Greater than `userTokenMaxInterval` -** Only allowed if the *calling* user has `_administrator` role.

If `autoRefresh` is `true`, the expiration clock is reset with every API call when the token is used, with one exception. If the time since last reset is less than configuration property `userTokenRefreshInterval` (default 10 seconds), the token is not updated. This is in order to reduce database writes. Example:

1. Token is created, will expire in 60 seconds.
2. 8 seconds later, token is used. Since 8<10, token is not updated.
3. Another 8 seconds later, token is used again. Since 16>10, token is updated, and valid for 60 seconds more.

Example

(Note, this call above is invoked by user `admin`)

```
GET /user/myuser/token
Authorization: basic YWRtaW46YWRtaW4=

6663e105-828e-45c1-ac54-7dd17f3e8a38

GET /item
Authorization: token 6663e105-828e-45c1-ac54-7dd17f3e8a38
```

This will return items that user myuser has access to.

16.30.4 Group-to-user relations

Retrieve a list of groups a user belongs to

GET /user/(*username*)**/groups**
Retrieves a list of all the groups a user belongs to.

Query Parameters

- **allgroups** –
  - `true` - List all groups the user belongs to, including parent groups.
  - `false` (default) - Just list the groups that the user is directly assigned to.
- **traverse** –
  - `true` - When used in combination with `allgroups=true`, the groups' hierarchies are shown.
  - `false` (default) - List the groups without hierarchical ordering.

Produces

- **application/xml, application/json** – *GroupListDocument*

Role _administrator

Retrieve a list of roles a user has

GET /user/(*username*)**/roles**
Returns a list of all the roles a user has.

Produces

- **application/xml, application/json** – *GroupListDocument*

Role _administrator

Retrieve all the roles and groups for a user

GET /user/(*username*)**/allgroups**
Retrieves a list of all the groups a user belongs to, as well as all roles the user is in.

Produces

- **application/xml, application/json** – *GroupListDocument*

Role _administrator

Add a user to multiple groups

PUT /user/(*username*)**/user/groups**
Adds a to multiple to groups. If the move parameter is set to `true`, it will cause the user to be moved to the specified groups.

Query Parameters

- **move** –
  - `true` - Remove all previous group-to-user relations

- `false` (default) - Keep the current group-to-user relations, and add the specified list

Accepts

- **application/xml, application/json** – *GroupListDocument*

Role _administrator

Example

First the user belongs to a single group:

```
GET /user/myuser/groups

<GroupListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <group>
      <groupName>A</groupName>
      <role>false</role>
   </group>
</GroupListDocument>
```

The user is then added to groups B, C:

```
PUT /user/myuser/groups
Content-Type: application/xml

<GroupListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <group>
      <groupName>B</groupName>
   </group>
   <group>
      <groupName>C</groupName>
   </group>
</GroupListDocument>

GET /user/myuser/groups

<GroupListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <group>
      <groupName>A</groupName>
      <role>false</role>
   </group>
   <group>
      <groupName>B</groupName>
      <role>false</role>
   </group>
   <group>
      <groupName>C</groupName>
      <role>false</role>
   </group>
</GroupListDocument>
```

And then moved to groups A, B:

```
PUT /user/myuser/groups?move=true
Content-Type: application/xml

<GroupListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <group>
```

```
      <groupName>A</groupName>
   </group>
   <group>
      <groupName>B</groupName>
   </group>
</GroupListDocument>

GET /user/myuser/groups

<GroupListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
   <group>
      <groupName>A</groupName>
      <role>false</role>
   </group>
   <group>
      <groupName>B</groupName>
      <role>false</role>
   </group>
</GroupListDocument>
```

16.30.5 User/group visualization

New in version 4.1.2.

In order to easily see the dependencies between users and groups there is a functionality to render the user and group hierarchy as a graph. In order to render the graph, the Graphviz (http://www.graphviz.org/) package is required.

Get user graph

GET /user/graph
Shows the relationships of users and groups.

Query Parameters

- **users** – Comma-separated list of users to include. Default is all users.
- **groups** – Comma-separated list of groups to include. Default is all groups.

Produces

- **image/png** –

Role _administrator

Get user graph as dot file

GET /user/graph/dot
Shows the relationships of users and groups in dot format, for further processing.

Query Parameters

- **users** – Comma-separated list of users to include. Default is all users.
- **groups** – Comma-separated list of groups to include. Default is all groups.

Produces

- **text/plain** –

Role _administrator

16.31 Vidispine logs

16.31.1 Retrieving log files

New in version 3.3.

If your application has a custom form for reporting issues then you can collect the log files using the `vidispine-logs` resource.

Get log files

`GET /vidispine-logs`

Query Parameters

- **starttime** – Mandatory ISO 8601 start time of time span.
- **endtime** – Mandatory ISO 8601 end time of time span.
- **comment** – Optional detailed description of what the problem is, to be written in zip file.
- **user** – Optional comma-separated list of user names to retrieve information about.
- **storage** – Optional comma-separated list of storage ids to retrieve information about.
- **item** – Optional comma-separated list of item ids to retrieve information about.
- **job** – Optional comma-separated list of job ids to retrieve information about.

Produces

- **application/zip** – A zip file with various log files collated.
- **multipart/form-data , multipart/mixed** – A multi-part response, with parts:
  - `zip` Containing the zip file.
  - `message-text` Containing CRLF-separated list of warnings.
  - `message-json` Containing JSON array list of warnings.

16.32 XML Schema

This is the XML schema used to define data types in the Vidispine API. For a snapshot of the XML schema, see http://xml.vidispine.com/schema/vidispine/, or here for the installed schema on your system.

16.32.1 xmlSchema.xsd

API specific schema.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
           targetNamespace="http://xml.vidispine.com/schema/vidispine"
           elementFormDefault="qualified"
           xmlns:jaxb="http://java.sun.com/xml/ns/jaxb"
```

```
            jaxb:version="1.0"
            xmlns:xjc="http://java.sun.com/xml/ns/jaxb/xjc"
            jaxb:extensionBindingPrefixes="xjc" xmlns:tns="http://xml.vidispine.com/schema/vidispine">

    <xs:include schemaLocation="common.xsd"/>
    <xs:include schemaLocation="transcoder.xsd"/>

    <xs:annotation>
        <xs:appinfo>
            <jaxb:globalBindings generateIsSetMethod="true">
                <xjc:serializable uid="10000"/>
                <!--<xjc:typeSubstitution type="complex"/>-->
            </jaxb:globalBindings>
        </xs:appinfo>
    </xs:annotation>

    <xs:complexType name="AnalyzeAudioJobType">
        <xs:sequence>
            <xs:element name="otif" type="tns:OtifPresetType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AnalyzeVideoJobType">
        <xs:sequence>
            <xs:element name="otif" type="tns:OtifPresetType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

AnalyzeJobDocument

```
    <xs:element name="AnalyzeJobDocument" type="tns:AnalyzeJobType" xmlns:tns="http://xml.vidispine.c
    <xs:complexType name="AnalyzeJobType">
        <xs:sequence>
            <xs:element name="black" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="threshold" type="xs:float" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="percentage" type="xs:int" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="bars" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="threshold" type="xs:float" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="percentage" type="xs:int" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="freeze" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="threshold" type="xs:float" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="time" type="xs:int" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>

```

```
            <xs:element name="channel" type="tns:AnalyzeAudioChannelType" minOccurs="0" maxOccurs="u
        <xs:element name="audio" type="tns:AnalyzeAudioJobType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="video" type="tns:AnalyzeVideoJobType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="SearchResultEntryTimespanType">
        <xs:sequence>
            <xs:element name="field" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="value" type="xs:string" minOccurs="0" maxOccurs="unbounded"
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
        <xs:attribute name="start" type="xs:string" use="required"/>
        <xs:attribute name="end" type="xs:string" use="required"/>
    </xs:complexType>

    <xs:complexType name="SearchResultEntryType">
        <xs:sequence>
            <xs:choice>
                <xs:element name="item" type="tns:ItemType"/>
                <xs:element name="collection" type="tns:CollectionType"/>
                <xs:element name="shape" type="tns:ShapeType"/>
                <xs:element name="file" type="tns:FileType"/>
            </xs:choice>
            <xs:element name="timespan" type="tns:SearchResultEntryTimespanType" minOccurs="0" maxOcc
        </xs:sequence>
        <xs:attribute name="start" type="xs:string" use="optional"/>
        <xs:attribute name="end" type="xs:string" use="optional"/>
        <xs:attribute name="type" type="xs:string" use="optional"/>
        <xs:attribute name="id" type="xs:string" use="optional"/>
        <xs:attribute name="parent_type" type="xs:string" use="optional"/>
        <xs:attribute name="parent_id" type="xs:string" use="optional"/>
        <xs:attribute name="base" type="xs:string" use="optional"/>
    </xs:complexType>
```

SearchResultDocument

```
    <xs:element name="SearchResultDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="SearchResultType">
        <xs:sequence>
            <xs:element name="hits" minOccurs="0" maxOccurs="1" type="xs:int"/>
            <xs:element name="suggestion" minOccurs="0" maxOccurs="unbounded" type="tns:SuggestionRes

            <xs:element name="entry" type="tns:SearchResultEntryType" minOccurs="0" maxOccurs="unbour
            <xs:element name="facet" minOccurs="0" maxOccurs="unbounded" type="tns:FacetType"/>
        </xs:sequence>
    </xs:complexType>
```

MetadataEntryListDocument

```
    <xs:element name="MetadataEntryListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="MetadataEntryListType2">
        <xs:sequence>
            <xs:element name="entry" minOccurs="0" maxOccurs="unbounded">
```

```
                <xs:complexType>
                    <xs:complexContent>
                        <xs:extension base="tns:MetadataEntryType">
                            <xs:attribute name="uuid" type="xs:string"/>
                        </xs:extension>
                    </xs:complexContent>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

MetadataEntryDocument

```
    <xs:element name="MetadataEntryDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="MetadataEntryType">
        <xs:sequence>
            <xs:element name="group" type="tns:MetadataGroupValueType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="field" type="tns:MetadataFieldValueType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="value" type="tns:MetadataValueType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="source" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="loc" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

MetadataSchemaDocument

```
    <xs:element name="MetadataSchemaDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="MetadataSchemaType">
        <xs:sequence>
           <xs:element name="group" minOccurs="0" maxOccurs="unbounded" type="tns:MetadataSchemaGroup
        </xs:sequence>
    </xs:complexType>
```

MetadataSchemaGroupDocument

```
    <xs:element name="MetadataSchemaGroupDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="MetadataSchemaGroupType">
       <xs:sequence>
           <xs:element name="group" minOccurs="0" maxOccurs="unbounded" type="tns:MetadataSchemaEleme
           <xs:element name="field" minOccurs="0" maxOccurs="unbounded" type="tns:MetadataSchemaEleme
       </xs:sequence>
       <xs:attributeGroup ref="tns:MetadataSchemaAttributes"/>
    </xs:complexType>
```

BeanCallbackListDocument

```
    <xs:element name="BeanCallbackListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="BeanCallbackListType">
        <xs:sequence>
            <xs:element name="callback" type="tns:BeanCallbackType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
    </xs:complexType>
```

BeanCallbackDocument

```
<xs:element name="BeanCallbackDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
<xs:complexType name="BeanCallbackType">
    <xs:sequence>
        <xs:element name="sourceBean" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="sourceMethod" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="destinationBean" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="destinationMethod" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="lastSuccess" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
        <xs:element name="lastFailure" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
        <xs:element name="errorMessage" type="xs:string" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
</xs:complexType>
```

AuditLogDocument

```
<xs:element name="AuditLogDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
<xs:complexType name="AuditLogType">
    <xs:sequence>
        <xs:element name="count" type="xs:long" minOccurs="0" maxOccurs="1"/>
        <xs:element name="entry" type="tns:AuditLogEntryType" minOccurs="0" maxOccurs="unbounded"
    </xs:sequence>
</xs:complexType>

<xs:complexType name="AuditLogEntryType">
    <xs:sequence>
        <xs:element name="username" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="method" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="path" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="queryParameters" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="matrixParameters" type="xs:string" minOccurs="1" maxOccurs="1"/>
        <xs:element name="runAs" type="xs:string" minOccurs="0" maxOccurs="1"/>
        <xs:element name="contentType" type="xs:string" minOccurs="0" maxOccurs="1"/>
        <xs:element name="contentLength" type="xs:string" minOccurs="0" maxOccurs="1"/>
        <xs:element name="body" type="xs:string" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
    <xs:attribute name="timestamp" type="xs:dateTime" use="required"/>
</xs:complexType>
```

ConfigurationPropertyListDocument

```
<xs:element name="ConfigurationPropertyListDocument" xmlns:tns="http://xml.vidispine.com/schema/v
<xs:complexType name="ConfigurationPropertyListType">
    <xs:sequence>
        <xs:element name="property" type="tns:ConfigurationPropertyType" minOccurs="0" maxOccurs=
    </xs:sequence>
</xs:complexType>
```

ConfigurationPropertyDocument

```
<xs:element name="ConfigurationPropertyDocument" xmlns:tns="http://xml.vidispine.com/schema/vidis
<xs:complexType name="ConfigurationPropertyType">
    <xs:sequence>
        <xs:element name="key" minOccurs="1" maxOccurs="1" type="xs:string"/>
        <xs:element name="value" minOccurs="0" maxOccurs="1" type="xs:string"/>
    </xs:sequence>
    <xs:attribute name="lastChange" type="xs:dateTime" use="optional"/>
</xs:complexType>

```

```
    <xs:complexType name="CollectionReorderEntryType">
        <xs:attribute name="id" use="required" type="xs:string"/>
        <xs:attribute name="before" use="optional" type="xs:string"/>
        <xs:attribute name="after" use="optional" type="xs:string"/>
    </xs:complexType>
```

CollectionReorderDocument

```
    <xs:element name="CollectionReorderDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="CollectionReorderType">
        <xs:sequence>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded" type="tns:CollectionReorderEn
            <xs:element name="collection" minOccurs="0" maxOccurs="unbounded" type="tns:CollectionReo
            <xs:element name="library" minOccurs="0" maxOccurs="unbounded" type="tns:CollectionReorde
        </xs:sequence>
    </xs:complexType>
```

ExternalIdentifierNamespaceListDocument

```
    <xs:element name="ExternalIdentifierNamespaceListDocument" xmlns:tns="http://xml.vidispine.com/sc
    <xs:complexType name="ExternalIdentifierNamespaceListType">
        <xs:sequence>
            <xs:element name="namespace" type="tns:ExternalIdentifierNamespaceType" minOccurs="0" max
        </xs:sequence>
    </xs:complexType>
```

ExternalIdentifierNamespaceDocument

```
    <xs:element name="ExternalIdentifierNamespaceDocument" xmlns:tns="http://xml.vidispine.com/schema
    <xs:complexType name="ExternalIdentifierNamespaceType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="pattern" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="priority" type="xs:int" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ExternalIdentifierListDocument

```
    <xs:element name="ExternalIdentifierListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidi
    <xs:complexType name="ExternalIdentifierListType">
        <xs:sequence>
            <xs:element name="id" type="tns:ExternalIdentifierType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
    </xs:complexType>
```

ExternalIdentifierDocument

```
    <xs:element name="ExternalIdentifierDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="ExternalIdentifierType">
        <xs:sequence>
            <xs:element name="entityId" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="entityType" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="namespace" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="externalId" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

MetadataFieldResultDocument

```
    <xs:element name="MetadataFieldResultDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi

    <xs:complexType name="MetadataFieldResultType">
        <xs:sequence>
            <xs:element name="hits" minOccurs="1" maxOccurs="1" type="xs:int"/>
            <xs:element name="group" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="value" type="tns:MetadataGroupValueType" minOccurs="0" maxO
                        <xs:element name="definition" type="tns:MetadataFieldGroupType" minOccurs="0"
                        <xs:element name="source" minOccurs="0" maxOccurs="1">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element name="id" type="xs:string" minOccurs="1" maxOccurs="1
                                    <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs=
                                    <xs:element name="loc" type="xs:anyURI" minOccurs="1" maxOccurs="
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:sequence>
                    <xs:attribute name="name" type="xs:string" use="required"/>
                    <xs:attribute name="uuid" type="xs:string" use="required"/>
                    <xs:attribute name="start" type="xs:string" use="required"/>
                    <xs:attribute name="end" type="xs:string" use="required"/>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

MetadataFieldGroupListDocument

```
    <xs:element name="MetadataFieldGroupListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidi
    <xs:complexType name="MetadataFieldGroupListType">
        <xs:sequence>
            <xs:element name="group" type="tns:MetadataFieldGroupType" minOccurs="0" maxOccurs="unbou
        </xs:sequence>
    </xs:complexType>
```

MetadataFieldGroupDocument

```
    <xs:element name="MetadataFieldGroupDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="MetadataFieldGroupType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="schema" type="tns:MetadataSchemaElementType" minOccurs="0" maxOccurs="1
            <xs:element name="data" minOccurs="0" maxOccurs="unbounded" type="tns:KeyValuePairType"/>
            <xs:element name="field" type="tns:MetadataFieldType" minOccurs="0" maxOccurs="unbounded"
            <xs:element name="group" type="tns:MetadataFieldGroupType" minOccurs="0" maxOccurs="unbou
            <xs:element name="access" minOccurs="0" maxOccurs="unbounded" type="tns:MetadataFieldAcce
            <xs:element name="externalId" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="origin" type="xs:string" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
        <xs:attribute name="inheritance" type="xs:string" use="optional"/>
    </xs:complexType>
```

MetadataFieldListDocument

```
    <xs:element name="MetadataFieldListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="MetadataFieldListType">
```

```
        <xs:sequence>
            <xs:element name="access" minOccurs="0" maxOccurs="unbounded" type="tns:MetadataFieldAcce
            <xs:element name="field" minOccurs="0" maxOccurs="unbounded" type="tns:MetadataFieldType"
        </xs:sequence>
    </xs:complexType>
```

MetadataFieldAccessControlListDocument

```
    <xs:element name="MetadataFieldAccessControlListDocument" xmlns:tns="http://xml.vidispine.com/sch
    <xs:complexType name="MetadataFieldAccessControlListType">
        <xs:sequence>
            <xs:element name="access" type="tns:MetadataFieldAccessControlType" minOccurs="0" maxOccu
        </xs:sequence>
    </xs:complexType>
```

MetadataFieldAccessControlDocument

```
    <xs:element name="MetadataFieldAccessControlDocument" xmlns:tns="http://xml.vidispine.com/schema/
    <xs:complexType name="MetadataFieldAccessControlType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
            <xs:choice minOccurs="0" maxOccurs="1">
                <xs:element name="field" type="xs:string" minOccurs="1" maxOccurs="1"/>
                <xs:element name="fieldGroup" type="xs:string" minOccurs="1" maxOccurs="1"/>
            </xs:choice>
            <xs:element name="user" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

add

```
    <xs:element name="add" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:SolrAddTyp
    <xs:complexType name="SolrAddType"> <!-- notoc -->
        <xs:sequence>
            <xs:element name="doc" type="tns:SolrDocumentType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

doc

```
    <xs:element name="doc" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:SolrDocume
    <xs:complexType name="SolrDocumentType"> <!-- notoc -->
        <xs:sequence>
            <xs:element name="field" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:simpleContent>
                        <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="required"/>
                        </xs:extension>
                    </xs:simpleContent>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

LockDocument

```
    <xs:element name="LockDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:
    <xs:complexType name="LockType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="user" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="expires" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ExceptionDocument

```
    <xs:element name="ExceptionDocument" type="tns:ExceptionType" />
    <xs:complexType name="ExceptionType">
        <xs:choice>
            <xs:element name="notFound" type="tns:NotFoundExceptionType"/>
            <xs:element name="internalServer" type="tns:InternalServerExceptionType"/>
            <xs:element name="forbidden" type="tns:ForbiddenExceptionType"/>
            <xs:element name="notYetImplemented" type="tns:NotYetImplementedExceptionType"/>
            <xs:element name="conflict" type="tns:ConflictExceptionType"/>
            <xs:element name="invalidInput" type="tns:InvalidInputExceptionType"/>
            <xs:element name="licenseFault" type="tns:LicenseExceptionType"/>
            <xs:element name="fileAlreadyExists" type="tns:FileAlreadyExistsExceptionType"/>
            <xs:element name="notAuthorized" type="tns:NotAuthorizedExceptionType"/>
        </xs:choice>
    </xs:complexType>

    <xs:complexType name="NotFoundExceptionType">
        <xs:sequence>
            <xs:element name="type" minOccurs="0" type="xs:string" />
            <xs:element name="id" minOccurs="0" type="xs:string" />
            <xs:element name="context" minOccurs="0" type="xs:string" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="LicenseExceptionType">
        <xs:sequence>
            <xs:element name="message" minOccurs="0" type="xs:string" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="InternalServerExceptionType">
        <xs:sequence>
            <xs:element name="message" minOccurs="0" type="xs:string" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ForbiddenExceptionType">
        <xs:sequence>
            <xs:element name="context" minOccurs="0" type="xs:string" />
            <xs:element name="id" minOccurs="0" type="xs:string" />
            <xs:element name="explanation" minOccurs="0" type="xs:string" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="NotYetImplementedExceptionType">
        <xs:sequence>
        </xs:sequence>
    </xs:complexType>
```

```
428
429     <xs:complexType name="ConflictExceptionType">
430         <xs:sequence>
431             <xs:element name="context" minOccurs="0" type="xs:string" />
432             <xs:element name="id" minOccurs="0" type="xs:string" />
433             <xs:element name="explanation" minOccurs="0" type="xs:string" />
434             <xs:element name="value" minOccurs="0" type="xs:string" />
435         </xs:sequence>
436     </xs:complexType>
437
438     <xs:complexType name="InvalidInputExceptionType">
439         <xs:sequence>
440             <xs:element name="context" minOccurs="0" type="xs:string" />
441             <xs:element name="id" minOccurs="0" type="xs:string" />
442             <xs:element name="explanation" minOccurs="0" type="xs:string" />
443             <xs:element name="value" minOccurs="0" type="xs:string" />
444         </xs:sequence>
445     </xs:complexType>
446
447     <xs:complexType name="FileAlreadyExistsExceptionType">
448         <xs:sequence>
449             <xs:element name="storageId" minOccurs="0" type="xs:string" />
450             <xs:element name="fileId" minOccurs="0" type="xs:string" />
451             <xs:element name="path" minOccurs="0" type="xs:string" />
452         </xs:sequence>
453     </xs:complexType>
454
455     <xs:complexType name="NotAuthorizedExceptionType">
456         <xs:sequence>
457             <xs:element name="message" minOccurs="0" type="xs:string" />
458         </xs:sequence>
459     </xs:complexType>
```

AccessControlMergedGroupDocument

```
461     <xs:element name="AccessControlMergedGroupDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
462     <xs:complexType name="AccessControlMergedGroupType">
463         <xs:sequence>
464             <xs:element name="access" minOccurs="0" maxOccurs="unbounded">
465                 <xs:complexType>
466                     <xs:sequence>
467                         <xs:element name="group" type="xs:string" minOccurs="1" maxOccurs="1"/>
468                         <xs:element name="grantor" type="xs:string" minOccurs="0" maxOccurs="1"/>
469                         <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
470                         <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
471                         <xs:element name="extradata" type="xs:string" minOccurs="0" maxOccurs="1"/>
472                         <xs:element name="collection" type="tns:SiteIdType" minOccurs="0" maxOccurs="
473                         <xs:element name="library" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/
474                     </xs:sequence>
475                     <xs:attribute name="priority" use="optional" type="xs:int"/>
476                     <xs:attribute name="id" use="optional" type="tns:SiteIdType"/>
477                     <xs:attribute name="effectivePermission" use="optional" type="xs:string"/>
478                 </xs:complexType>
479             </xs:element>
480         </xs:sequence>
481     </xs:complexType>
```

AccessControlMergedDocument

```
483     <xs:element name="AccessControlMergedDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
484     <xs:complexType name="AccessControlMergedType">
485         <xs:sequence>
486             <xs:element name="query" minOccurs="0" maxOccurs="1">
487                 <xs:complexType>
488                     <xs:sequence>
489                         <xs:element name="username" type="xs:string" minOccurs="1" maxOccurs="1"/>
490                         <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
491                         <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
492                         <xs:element name="extradata" type="xs:string" minOccurs="0" maxOccurs="1"/>
493                         <xs:element name="item" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
494                     </xs:sequence>
495                 </xs:complexType>
496             </xs:element>
497             <xs:element name="access" minOccurs="0" maxOccurs="unbounded">
498                 <xs:complexType>
499                     <xs:sequence>
500                         <xs:element name="grantor" type="xs:string" minOccurs="0" maxOccurs="1"/>
501                         <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
502                         <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
503                         <xs:element name="extradata" type="xs:string" minOccurs="0" maxOccurs="1"/>
504                         <xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="1"/>
505                         <xs:element name="collection" type="tns:SiteIdType" minOccurs="0" maxOccurs="
506                         <xs:element name="library" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/
507                     </xs:sequence>
508                     <xs:attribute name="superUser" use="optional" type="xs:boolean"/>
509                     <xs:attribute name="priority" use="required" type="xs:int"/>
510                     <xs:attribute name="matches" use="optional" type="xs:boolean"/>
511                     <xs:attribute name="id" use="optional" type="tns:SiteIdType"/>
512                     <xs:attribute name="username" use="optional" type="xs:string"/>
513                     <xs:attribute name="effectivePermission" use="optional" type="xs:string"/>
514                 </xs:complexType>
515             </xs:element>
516             <xs:element name="fieldGroup" type="tns:MetadataFieldGroupPermissionType" minOccurs="0" m
517             <xs:element name="field" type="tns:MetadataFieldPermissionType" minOccurs="0" maxOccurs="
518         </xs:sequence>
519     </xs:complexType>
520
521     <xs:complexType name="MetadataFieldGroupPermissionType">
522         <xs:sequence>
523             <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
524             <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
525             <xs:element name="fieldGroup" type="tns:MetadataFieldGroupPermissionType" minOccurs="0" m
526             <xs:element name="field" type="tns:MetadataFieldPermissionType" minOccurs="0" maxOccurs="
527         </xs:sequence>
528         <xs:attribute name="username" use="required" type="xs:string"/>
529     </xs:complexType>
530
531     <xs:complexType name="MetadataFieldPermissionType">
532         <xs:sequence>
533             <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
534             <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
535         </xs:sequence>
536         <xs:attribute name="username" use="required" type="xs:string"/>
537     </xs:complexType>
```

ImportSettingsDocument

```
539     <xs:element name="ImportSettingsDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
540
541     <xs:complexType name="ImportSettingsType">
542         <xs:sequence>
543             <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
544             <xs:element name="access" type="tns:AccessControlType" minOccurs="0" maxOccurs="unbounde
545         </xs:sequence>
546     </xs:complexType>
```

ScheduledRequestDocument

```
548     <xs:element name="ScheduledRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine'
```

ScheduledRequestListDocument

```
549     <xs:element name="ScheduledRequestListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
550
551     <xs:complexType name="ScheduledRequestListType">
552         <xs:sequence>
553             <xs:element name="scheduledRequest" type="tns:ScheduledRequestType" minOccurs="0" maxOccu
554         </xs:sequence>
555     </xs:complexType>
556
557     <xs:complexType name="ScheduledRequestType">
558         <xs:sequence>
559             <xs:element name="id" type="xs:long" minOccurs="1" maxOccurs="1"/>
560             <xs:element name="user" type="xs:string" minOccurs="1" maxOccurs="1"/>
561             <xs:element name="state" type="xs:string" minOccurs="1" maxOccurs="1"/>
562             <xs:element name="date" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
563             <xs:element name="created" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
564             <xs:element name="executed" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
565             <xs:element name="request" minOccurs="1" maxOccurs="1">
566                 <xs:complexType>
567                     <xs:sequence>
568                         <xs:element name="uri" type="xs:string" minOccurs="1" maxOccurs="1"/>
569                         <xs:element name="method" type="xs:string" minOccurs="1" maxOccurs="1"/>
570                         <xs:element name="body" type="xs:string" minOccurs="0" maxOccurs="1"/>
571                     </xs:sequence>
572                 </xs:complexType>
573             </xs:element>
574             <xs:element name="response" minOccurs="0" maxOccurs="1">
575                 <xs:complexType>
576                     <xs:sequence>
577                         <xs:element name="statusCode" type="xs:int" minOccurs="1" maxOccurs="1"/>
578                         <xs:element name="hasBody" type="xs:boolean" minOccurs="1" maxOccurs="1"/>
579                         <xs:element name="contentType" type="xs:string" minOccurs="0" maxOccurs="1"/>
580                     </xs:sequence>
581                 </xs:complexType>
582             </xs:element>
583         </xs:sequence>
584     </xs:complexType>
```

LibrarySettingsDocument

```
586     <xs:element name="LibrarySettingsDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
587     <xs:complexType name="LibrarySettingsType">
588         <xs:sequence>
589             <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
590             <xs:element name="username" type="xs:string" minOccurs="0" maxOccurs="1"/>
```

```
            <xs:element name="updateMode" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="autoRefresh" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="updateFrequency" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="lastUpdate" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="query" type="tns:ItemSearchType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ImportAccessControlListDocument

```
    <xs:element name="ImportAccessControlListDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="ImportAccessControlListType">
        <xs:sequence>
            <xs:element name="group" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

StorageGroupListDocument

```
    <xs:element name="StorageGroupListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="StorageGroupListType">
        <xs:sequence>
            <xs:element name="group" type="tns:StorageGroupType" minOccurs="0" maxOccurs="unbounded"/
        </xs:sequence>
    </xs:complexType>
```

StorageGroupDocument

```
    <xs:element name="StorageGroupDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="StorageGroupType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="data" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="key" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="value" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="storage" type="tns:StorageType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

ProjectDocument

```
    <xs:element name="ProjectDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="ProjectType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ProjectVersionDocument

```
<xs:element name="ProjectVersionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
<xs:complexType name="ProjectVersionType">
    <xs:sequence>
        <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
            <xs:complexType>
                <xs:sequence>
                    <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="externalId" type="xs:string" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="uri" type="xs:string" minOccurs="0" maxOccurs="1"/>
                </xs:sequence>
            </xs:complexType>
        </xs:element>
        <xs:element name="sequence" type="tns:SequenceType" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
</xs:complexType>

<xs:complexType name="SequenceMediaType">
    <xs:sequence>
        <xs:element name="item" minOccurs="1" maxOccurs="1" type="tns:SiteIdType"/>
        <xs:element name="sourceTrack" minOccurs="1" maxOccurs="1" type="xs:int"/>
        <xs:element name="in" minOccurs="1" maxOccurs="1" type="tns:TimeCodeType"/>
        <xs:element name="out" minOccurs="1" maxOccurs="1" type="tns:TimeCodeType"/>
        <xs:element name="sourceIn" minOccurs="1" maxOccurs="1" type="tns:TimeCodeType"/>
        <xs:element name="sourceOut" minOccurs="1" maxOccurs="1" type="tns:TimeCodeType"/>
        <xs:element name="effect" type="tns:EffectType" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
</xs:complexType>

<!-- Like TransitionType, except that it uses in and out points and has user friendly color value
<xs:complexType name="SequenceTransitionType">
    <xs:sequence>
        <xs:element name="in" type="tns:TimeCodeType" minOccurs="1" maxOccurs="1"/>
        <xs:element name="out" type="tns:TimeCodeType" minOccurs="1" maxOccurs="1"/>
        <xs:element name="wipe" type="xs:int" minOccurs="0"/>
        <xs:element name="transition" type="xs:string"/>
        <xs:element name="horizRepeat" type="xs:int" minOccurs="0"/>
        <xs:element name="vertRepeat" type="xs:int" minOccurs="0"/>
        <xs:element name="startPercentage" type="xs:int" minOccurs="0"/>
        <xs:element name="endPercentage" type="xs:int" minOccurs="0"/>
        <xs:element name="reverse" type="xs:boolean" minOccurs="0"/>
        <xs:element name="borderWidth" type="xs:int" minOccurs="0"/>
        <xs:element name="borderColor" type="xs:string" minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
```

SequenceListDocument

```
<xs:element name="SequenceListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
<xs:complexType name="SequenceListType">
    <xs:sequence>
        <xs:element name="sequence" minOccurs="0" maxOccurs="unbounded">
            <xs:complexType>
                <xs:sequence>
```

```
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

SequenceDocument

```
    <xs:element name="SequenceDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="SequenceType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="track" type="tns:SequenceTrackType" minOccurs="0" maxOccurs="unbounded"
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="SequenceTrackType">
        <xs:sequence>
            <xs:element name="audio" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="segment" type="tns:SequenceMediaType" minOccurs="0" maxOccurs="unbounde
            <xs:element name="transition" type="tns:SequenceTransitionType" minOccurs="0" maxOccurs="
        </xs:sequence>
    </xs:complexType>
```

JobProblemListDocument

```
    <xs:element name="JobProblemListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="JobProblemListType">
        <xs:sequence>
            <xs:element name="problem" type="tns:JobProblemType" minOccurs="0" maxOccurs="unbounded"/
        </xs:sequence>
    </xs:complexType>
```

JobProblemDocument

```
    <xs:element name="JobProblemDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
    <xs:complexType name="JobProblemType">
        <xs:sequence>
            <xs:element name="id" type="xs:long" minOccurs="1" maxOccurs="1"/>
            <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="data" type="tns:KeyValueType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="job" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="KeyValueType">
        <xs:sequence>
            <xs:element name="key" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="value" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

SearchHistoryDocument

```
    <xs:element name="SearchHistoryDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="SearchHistoryListType">
        <xs:sequence>
            <xs:element name="search" type="tns:SearchHistoryType" minOccurs="0" maxOccurs="unbounded
```

```
748         </xs:sequence>
749     </xs:complexType>
750
751     <xs:complexType name="SearchHistoryType">
752         <xs:sequence>
753             <xs:element name="timestamp" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
754             <xs:element name="user" type="xs:string" minOccurs="1" maxOccurs="1"/>
755             <xs:element name="query" type="tns:ItemSearchType" minOccurs="1" maxOccurs="1"/>
756         </xs:sequence>
757     </xs:complexType>
```

ImportableFileListDocument

```
759     <xs:element name="ImportableFileListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
760     <xs:complexType name="ImportableFileListType">
761         <xs:sequence>
762             <xs:element name="hits" minOccurs="0" maxOccurs="1" type="xs:integer" />
763             <xs:element name="element" minOccurs="0" type="tns:ImportableFileType" maxOccurs="unbound
764         </xs:sequence>
765     </xs:complexType>
```

ImportableFileDocument

```
767     <xs:element name="ImportableFileDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
768     <xs:complexType name="ImportableFileType">
769         <xs:sequence>
770             <xs:element name="file" type="tns:FileType" minOccurs="1" maxOccurs="1"/>
771             <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
772         </xs:sequence>
773     </xs:complexType>
```

AutoImportRuleListDocument

```
775     <xs:element name="AutoImportRuleListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
776     <xs:complexType name="AutoImportRuleListType">
777         <xs:sequence>
778             <xs:element name="rule" type="tns:AutoImportRuleType" minOccurs="0" maxOccurs="unbounded"
779         </xs:sequence>
780     </xs:complexType>
```

AutoImportRuleDocument

```
782     <xs:element name="AutoImportRuleDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
783     <xs:complexType name="AutoImportRuleType">
784         <xs:sequence>
785             <xs:element name="fileNameAsTitle" type="xs:boolean" minOccurs="0" maxOccurs="1" />
786             <xs:element name="storage" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
787             <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
788             <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
789             <xs:element name="jobmetadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1"
790             <xs:element name="settingsId" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
791             <xs:element name="projection" type="xs:string" minOccurs="0" maxOccurs="1" />
792             <xs:element name="excludeFilter" type="tns:FilenameFilterType" minOccurs="0" maxOccurs="u
793             <xs:element name="shapeTagFilter" type="tns:FilenameFilterType" minOccurs="0" maxOccurs="
794             <xs:element name="sequenceDefinition" type="tns:sequenceDefinitionType" minOccurs="0" max
795             <xs:element name="priority" type="xs:string" minOccurs="0" maxOccurs="1"/>
796         </xs:sequence>
797     </xs:complexType>
798
799     <xs:complexType name="sequenceDefinitionType">
```

```
        <xs:sequence>
            <xs:element name="sequenceMetadata" type="tns:SequenceMetaDataType" minOccurs="0" maxOccu
            <xs:element name="fileSequence" type="tns:FileSequestionDefinitionType" minOccurs="1" max
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="SequenceMetaDataType">
        <xs:sequence>
            <xs:element name="regex" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="idGroup" type="xs:integer" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSequestionDefinitionType">
        <xs:sequence>
            <xs:element name="regex" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="idGroup" type="xs:integer" minOccurs="1" maxOccurs="1"/>
            <xs:element name="numGroup" type="xs:integer" minOccurs="1" maxOccurs="1"/>
            <xs:element name="timeout" type="xs:integer" minOccurs="1" maxOccurs="1"/>
            <xs:element name="numFormat" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FilenameFilterType">
        <xs:sequence>
            <xs:element name="pattern" type="xs:string"/>
            <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="WeekDayType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="MONDAY"/>
            <xs:enumeration value="TUESDAY"/>
            <xs:enumeration value="WEDNESDAY"/>
            <xs:enumeration value="THURSDAY"/>
            <xs:enumeration value="FRIDAY"/>
            <xs:enumeration value="SATURDAY"/>
            <xs:enumeration value="SUNDAY"/>
        </xs:restriction>
    </xs:simpleType>
```

FileSynchronizationInfoDocument

```
    <xs:element name="FileSynchronizationInfoDocument" type="tns:FileSynchronizationInfoType"/>
    <xs:complexType name="FileSynchronizationInfoType">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="lastUpdated" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
            <xs:element name="size" type="xs:long" minOccurs="1" maxOccurs="1"/>
            <xs:element name="state" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="hash" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationScheduleEntryType">
        <xs:sequence>
            <xs:element name="day" type="tns:WeekDayType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="start" type="xs:string" minOccurs="1" maxOccurs="1"/>
```

```
            <xs:element name="end" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationScheduleType">
        <xs:sequence>
            <xs:element name="entry" type="tns:FileSynchronizationScheduleEntryType" minOccurs="0" ma
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationUriMethodType">
        <xs:sequence>
            <xs:element name="scheme" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="methodType" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationCustomMethodType">
        <xs:sequence>
            <xs:element name="bean" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="additionalParameters" type="tns:SimpleMetadataType" minOccurs="0" maxO
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationMethodType">
        <xs:choice>
            <xs:element name="uri" type="tns:FileSynchronizationUriMethodType"/>
            <xs:element name="custom" type="tns:FileSynchronizationCustomMethodType"/>
        </xs:choice>
    </xs:complexType>
```

FileSynchronizationEntryListDocument

```
    <xs:element name="FileSynchronizationEntryListDocument" xmlns:tns="http://xml.vidispine.com/scher
    <xs:complexType name="FileSynchronizationEntryListType">
        <xs:sequence>
            <xs:element name="entry" type="tns:FileSynchronizationEntryType" minOccurs="0" maxOccurs=
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationEntryStatusType">
        <xs:sequence>
            <xs:element name="bytesWritten" type="xs:long" minOccurs="1" maxOccurs="1"/>
            <xs:element name="lastWritten" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="lastChecked" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizationLogEntryType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="timestamp" type="xs:dateTime" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
```

FileSynchronizationLogDocument

```
911     <xs:element name="FileSynchronizationLogDocument" xmlns:tns="http://xml.vidispine.com/schema/vidi
912     <xs:complexType name="FileSynchronizationLogType">
913         <xs:sequence>
914             <xs:element name="entry" type="tns:FileSynchronizationLogEntryType" minOccurs="0" maxOccu
915         </xs:sequence>
916     </xs:complexType>
```

FileSynchronizationEntryDocument

```
918     <xs:element name="FileSynchronizationEntryDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
919     <xs:complexType name="FileSynchronizationEntryType">
920         <xs:sequence>
921             <xs:element name="fileId" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
922             <xs:element name="state" type="xs:string" minOccurs="1" maxOccurs="1"/>
923             <xs:element name="size" type="xs:long" minOccurs="0" maxOccurs="1"/>
924             <xs:element name="hash" type="xs:string" minOccurs="0" maxOccurs="1"/>
925             <xs:element name="sourceSite" type="xs:string" minOccurs="1" maxOccurs="1"/>
926
927             <xs:element name="itemId" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
928             <xs:element name="shapeId" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
929
930             <xs:element name="status" type="tns:FileSynchronizationEntryStatusType" minOccurs="0" max
931
932             <xs:element name="log" type="tns:FileSynchronizationLogType" minOccurs="0" maxOccurs="1"/
933         </xs:sequence>
934     </xs:complexType>
```

FileSynchronizationRuleListDocument

```
936     <xs:element name="FileSynchronizationRuleListDocument" xmlns:tns="http://xml.vidispine.com/schema
937     <xs:complexType name="FileSynchronizationRuleListType">
938         <xs:sequence>
939             <xs:element name="rule" type="tns:FileSynchronizationRuleType" minOccurs="0" maxOccurs="u
940         </xs:sequence>
941     </xs:complexType>
```

FileSynchronizationRuleDocument

```
943     <xs:element name="FileSynchronizationRuleDocument" xmlns:tns="http://xml.vidispine.com/schema/vid
944     <xs:complexType name="FileSynchronizationRuleType">
945         <xs:sequence>
946             <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="1"/>
947             <xs:element name="schedule" type="tns:FileSynchronizationScheduleType" minOccurs="0" maxO
948             <xs:element name="method" type="tns:FileSynchronizationMethodType" minOccurs="1" maxOccur
949         </xs:sequence>
950     </xs:complexType>
951
952     <xs:simpleType name="SyncPolicyType">
953         <xs:restriction base="xs:string">
954             <xs:enumeration value="ONDEMAND"/>
955             <xs:enumeration value="ALWAYS"/>
956         </xs:restriction>
957     </xs:simpleType>
```

SiteDefinitionDocument

```
959     <xs:element name="SiteDefinitionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
960     <xs:complexType name="SiteDefinitionType">
961         <xs:sequence>
962             <xs:element name="url" type="xs:string"/>
```

```
            <xs:element name="username" type="xs:string"/>
            <xs:element name="password" type="xs:string"/>
            <xs:element name="syncPolicy" type="tns:SyncPolicyType"/>
        </xs:sequence>
    </xs:complexType>
```

ChangesetUUIDDocument

```
    <xs:element name="ChangesetUUIDDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="ChangesetUUIDType">
        <xs:sequence>
            <xs:element name="uuid" type="xs:string"/>
            <xs:element name="type" type="xs:string"/>
            <xs:element name="id" type="xs:string"/>
            <xs:element name="origin" type="xs:string"/>
            <xs:element name="timestamp" type="xs:dateTime"/>
        </xs:sequence>
    </xs:complexType>
```

ChangesetUUIDListDocument

```
    <xs:element name="ChangesetUUIDListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="ChangesetUUIDListType">
        <xs:sequence>
            <xs:element name="changeset" type="tns:ChangesetUUIDType" minOccurs="0" maxOccurs="unbou
        </xs:sequence>
    </xs:complexType>
```

SiteInitializationStatusDocument

```
    <xs:element name="SiteInitializationStatusDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="SiteInitializationStatusType">
        <xs:sequence>
            <xs:element name="started" type="xs:dateTime"/>
            <xs:element name="itemsProcessed" type="xs:integer"/>
            <xs:element name="collectionsProcessed" type="xs:integer"/>
            <xs:element name="librariesProcessed" type="xs:integer"/>
            <xs:element name="usersProcessed" type="xs:integer"/>
            <xs:element name="groupsProcessed" type="xs:integer"/>
        </xs:sequence>
    </xs:complexType>
```

EntitySynchronizeDocument

```
    <xs:element name="EntitySynchronizeDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="EntitySynchronizeType">
        <xs:sequence>
            <xs:element name="rule" type="tns:SiteRuleType" minOccurs="0"/>
            <xs:element name="createFileStatuses" type="xs:boolean" minOccurs="0" maxOccurs="1" />
            <xs:element name="timestamp" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
            <xs:element name="type" type="xs:string"/>
            <xs:choice>
                <xs:element name="item" type="tns:ItemSynchronizeType"/>
                <xs:element name="collection" type="tns:CollectionSynchronizeType"/>
                <xs:element name="user" type="tns:UserSynchronizeType"/>
                <xs:element name="group" type="tns:GroupSynchronizeType"/>
                <xs:element name="library" type="tns:LibrarySynchronizeType"/>
            </xs:choice>
        </xs:sequence>
    </xs:complexType>
```

```
    <xs:complexType name="ItemSynchronizeType">
        <xs:sequence>
            <xs:element name="delete" type="xs:boolean" />
            <xs:element name="create" type="xs:boolean" />
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="created" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="complete" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="metadata" type="tns:MetadataSynchronizeType" minOccurs="0" maxOccurs="1
            <xs:element name="shape" type="tns:ShapeSynchronizeType" minOccurs="0" maxOccurs="unbound
            <xs:element name="targetStorageId" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="file" type="tns:FileSynchronizeType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="access" type="tns:AccessControlSynchronizeType" minOccurs="0" maxOccurs
            <xs:element name="thumbnails" type="tns:ThumbnailsSynchronizeType" minOccurs="0" maxOccur
            <xs:element name="partOfCollection" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbour
            <xs:element name="partOfLibrary" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="metadataGroup" type="tns:MetadataFieldGroupType" minOccurs="0" maxOccur
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="CollectionSynchronizeType">
        <xs:sequence>
            <xs:element name="delete" type="xs:boolean" />
            <xs:element name="create" type="xs:boolean" />
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="name" type="xs:string" minOccurs="0"  maxOccurs="1"/>
            <xs:element name="complete" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="metadata" type="tns:MetadataSynchronizeType" minOccurs="0" maxOccurs="1
            <xs:element name="access" type="tns:AccessControlSynchronizeType" minOccurs="0" maxOccurs
            <xs:element name="hasItem" type="tns:HasSubEntityType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="hasLibrary" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="hasCollection" type="tns:HasSubEntityType" minOccurs="0" maxOccurs="unb
            <xs:element name="partOfCollection" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbour
            <xs:element name="deletedHasItem" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounde
            <xs:element name="deletedHasLibrary" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbou
            <xs:element name="deletedHasCollection" type="tns:SiteIdType" minOccurs="0" maxOccurs="un
            <xs:element name="metadataGroup" type="tns:MetadataFieldGroupType" minOccurs="0" maxOccur
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="LibrarySynchronizeType">
        <xs:sequence>
            <xs:element name="delete" type="xs:boolean" />
            <xs:element name="create" type="xs:boolean" />
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="complete" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="access" type="tns:AccessControlSynchronizeType" minOccurs="0" maxOccurs
            <xs:element name="updateMode" type="xs:string" />
            <xs:element name="updateFrequency" type="xs:string" minOccurs="0" />
            <xs:element name="searchXML" type="xs:string" minOccurs="0" />
            <xs:element name="hasItem" type="tns:HasSubEntityType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="partOfCollection" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbour
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="HasSubEntityType">
        <xs:sequence>
            <xs:element name="id" type="xs:string"/>
```

```
            <xs:element name="metadataId" type="xs:string"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="UserSynchronizeType">
        <xs:sequence>
            <xs:element name="delete" type="xs:boolean"/>
            <xs:element name="create" type="xs:boolean"/>
            <xs:element name="user" type="tns:UserType"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="GroupSynchronizeType">
        <xs:sequence>
            <xs:element name="removedUser" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="removedGroup" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="removedRole" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="delete" type="xs:boolean"/>
            <xs:element name="create" type="xs:boolean"/>
            <xs:element name="group" type="tns:GroupType"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MetadataSynchronizeType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType"/>
            <xs:element name="changeSet" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="metadata" type="tns:MetadataEntryListType" minOccurs="1" ma
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

ThumbnailsSynchronizeDocument

```
    <xs:element name="ThumbnailsSynchronizeDocument" xmlns:tns="http://xml.vidispine.com/schema/vidis
    <xs:complexType name="ThumbnailsSynchronizeType">
        <xs:sequence>
            <xs:element name="thumbnail" type="tns:ThumbnailSynchronizeType" minOccurs="0" maxOccurs=
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ThumbnailSynchronizeType">
        <xs:sequence>
            <xs:element name="operation" type="xs:string"/>
            <xs:element name="timecode" type="xs:string"/>
            <xs:element name="version" type="xs:integer"/>
            <xs:element name="poster" type="xs:boolean"/>
            <xs:element name="image" type="xs:string"/>
        </xs:sequence>
    </xs:complexType>

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

```
            <xs:element name="entry" type="tns:MetadataEntrySyncType" minOccurs="0" maxOccurs="unbour
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MetadataEntrySyncType">
        <xs:sequence>
            <xs:element name="value" type="xs:string"/>
        </xs:sequence>
        <xs:attribute name="id" type="tns:SiteIdType"/>
        <xs:attribute name="start" type="xs:string"/>
        <xs:attribute name="end" type="xs:string"/>
        <xs:attribute name="name" type="xs:string"/>
        <xs:attribute name="parentUuid" type="xs:string"/>
        <xs:attribute name="reference" type="xs:boolean"/>
        <xs:attribute name="removed" type="xs:boolean"/>
        <xs:attribute name="timestamp" type="xs:long"/>
        <xs:attribute name="type" type="xs:string"/>
        <xs:attribute name="user" type="xs:string"/>
        <xs:attribute name="valueUuid" type="xs:string"/>
        <xs:attribute name="version" type="xs:integer"/>
        <xs:attribute name="metadataId" type="tns:SiteIdType"/>
        <xs:attribute name="metadataLeafId" type="tns:SiteIdType"/>
        <xs:attribute name="track" type="xs:string"/>
        <xs:attribute name="language" type="xs:string"/>
    </xs:complexType>

    <xs:complexType name="ShapeSynchronizeType">
        <xs:sequence>
            <xs:element name="delete" type="xs:boolean"/>
            <xs:element name="create" type="xs:boolean"/>
            <xs:element name="essenceVersion" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="component" type="tns:ComponentSynchronizeType" minOccurs="0" maxOccurs=
            <xs:element name="tag" type="tns:ShapeTagSynchronizeType" minOccurs="0" maxOccurs="unbour
            <xs:element name="mimeType" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="ComponentTypeType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="AUDIO_COMPONENT"/>
            <xs:enumeration value="VIDEO_COMPONENT"/>
            <xs:enumeration value="CONTAINER_COMPONENT"/>
            <xs:enumeration value="BINARY_COMPONENT"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="ComponentSynchronizeType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="file" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="format" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="type" type="tns:ComponentTypeType" minOccurs="1" maxOccurs="1"/>
            <xs:choice>
                <xs:element name="audio" type="tns:AudioComponentType" minOccurs="0" maxOccurs="1"/>
                <xs:element name="container" type="tns:ContainerComponentType" minOccurs="0" maxOccur
                <xs:element name="video" type="tns:VideoComponentType" minOccurs="0" maxOccurs="1"/>
                <xs:element name="binary" type="tns:BinaryComponentType" minOccurs="0" maxOccurs="1"/
```

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

    <xs:complexType name="ShapeTagSynchronizeType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="preset" type="tns:TranscodePresetType" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AccessControlSynchronizeType">
        <xs:sequence>
            <xs:element name="delete" type="xs:boolean"/>
            <xs:element name="create" type="xs:boolean"/>
            <xs:element name="document" type="tns:AccessControlType"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileSynchronizeType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="uri" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="path" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

FileSiteAvailabilityDocument

```
    <xs:element name="FileSiteAvailabilityDocument" type="tns:FileSiteAvailabilityType"/>
    <xs:complexType name="FileSiteAvailabilityType">
        <xs:sequence>
            <xs:element type="xs:string" name="site" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

FileListDocument

```
    <xs:element name="FileListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="FileListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="file" type="tns:FileType" maxOccurs="unbounded" minOccurs="0"></xs:eler
        </xs:sequence>
    </xs:complexType>
```

TransferListDocument

```
    <xs:element name="TransferListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="TransferListType">
        <xs:sequence>
            <xs:element name="transfer" type="tns:TransferType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

TransferDocument

```
    <xs:element name="TransferDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="TransferType">
```

```
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="state" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="priority" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="transferred" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="fileId" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FastStartSettingType">
        <xs:sequence>
            <xs:element name="requireFastStart" type="xs:boolean" minOccurs="0" />
            <xs:element name="analyzeDuration" type="xs:boolean" minOccurs="0" />
            <xs:element name="fastStartDuration" minOccurs="0">
                <xs:complexType>
                    <xs:complexContent>
                        <xs:extension base="tns:TimeCodeType">
                            <xs:attribute name="override" type="xs:boolean" use="required"/>
                        </xs:extension>
                    </xs:complexContent>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

TranscodePresetListDocument

```
    <xs:element name="TranscodePresetListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="TranscodePresetListType">
        <xs:sequence>
            <xs:element name="preset" type="tns:TranscodePresetType" minOccurs="0" maxOccurs="unbound
        </xs:sequence>
    </xs:complexType>
```

TranscodePresetDocument

```
    <xs:element name="TranscodePresetDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="TranscodePresetType">
        <xs:sequence>
            <xs:element name="description" type="xs:string" minOccurs="0"/>
            <xs:element name="name" type="xs:string" minOccurs="0"/>
            <xs:element name="format" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="audio" type="tns:AudioTranscodePresetType" minOccurs="0" maxOccurs="1"/
            <xs:element name="video" type="tns:VideoTranscodePresetType" minOccurs="0" maxOccurs="1"/
            <xs:element name="startTimecode" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="fastStartSetting" type="tns:FastStartSettingType" minOccurs="0" maxOccu
            <xs:element name="thumbnailResolution" type="tns:ResolutionType" minOccurs="0" maxOccurs=
            <xs:element name="thumbnailBackground" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="thumbnailPeriod" type="tns:TimeCodeType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="thumbnailPlugin" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="posterResolution" type="tns:ResolutionType" minOccurs="0" maxOccurs="1"
            <xs:element name="posterBackground" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="faceDetect" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="preserveEDL" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="addClipName" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="overlay" minOccurs="0" maxOccurs="1" type="tns:OverlayType"/>
            <xs:element name="preferredSourceTag" minOccurs="0" maxOccurs="1" type="xs:string"/>
            <xs:element name="script" type="xs:string" minOccurs="0"/>
            <xs:element name="shapeMetadata" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unb
```

```
            <!-- Controls how the maximum time period that each chunk of samples is going to be, only
            <xs:element name="maxChunkDuration" type="tns:TimeCodeType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="demuxerSetting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="un
            <xs:element name="muxerSetting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbo
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AudioTranscodePresetType">
        <xs:sequence>
            <xs:element name="codec" minOccurs="0" maxOccurs="1" type="xs:string"/>
            <xs:element name="bitrate" minOccurs="0" maxOccurs="1" type="xs:int"/>
            <xs:element name="framerate" minOccurs="0" maxOccurs="1" type="tns:TimeBaseType"/>
            <xs:element name="channel" minOccurs="0" maxOccurs="unbounded" type="xs:int"/>
            <xs:element name="stream" minOccurs="0" maxOccurs="unbounded" type="xs:int"/>
            <xs:element name="preset" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="noAudio" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="mix" type="tns:AudioTranscodePresetMixType" minOccurs="0" maxOccurs="un
            <xs:element name="otif" type="tns:OtifPresetType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="monoFile" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="allChannel" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="output" type="tns:AudioOutputType" minOccurs="0" maxOccurs="unbounded"/
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AudioOutputType">
        <xs:sequence>
            <xs:element name="format" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="codec" minOccurs="0" maxOccurs="1" type="xs:string"/>
            <xs:element name="bitrate" minOccurs="0" maxOccurs="1" type="xs:int"/>
            <xs:element name="framerate" minOccurs="0" maxOccurs="1" type="tns:TimeBaseType"/>
            <xs:element name="channel" minOccurs="0" maxOccurs="unbounded" type="xs:int"/>
            <xs:element name="stream" minOccurs="0" maxOccurs="unbounded" type="xs:int"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AudioTranscodePresetMixType">
        <xs:sequence>
            <xs:element name="input" type="tns:AudioTranscodePresetChannelMixType" minOccurs="1" maxO
        </xs:sequence>
        <xs:attribute name="silence" type="xs:boolean"/>
    </xs:complexType>

    <xs:complexType name="AudioTranscodePresetChannelMixType">
        <xs:attribute name="id" type="xs:int" use="optional"/>
        <xs:attribute name="stream" type="xs:unsignedShort" use="required"/>
        <xs:attribute name="channel" type="xs:unsignedShort" use="required"/>
        <xs:attribute name="gain" type="xs:float" use="optional"/>
    </xs:complexType>

    <xs:complexType name="VideoTranscodePresetType">
        <xs:sequence>
            <xs:element name="scaling" minOccurs="0" maxOccurs="1" type="tns:ScalingType"/>
            <xs:element name="codec" minOccurs="0" maxOccurs="1" type="xs:string"/>
            <xs:element name="bitrate" minOccurs="0" maxOccurs="1" type="xs:int"/>
            <xs:element name="framerate" minOccurs="0" maxOccurs="1" type="tns:TimeBaseType"/>
            <xs:element name="resolution" minOccurs="0" maxOccurs="1" type="tns:ResolutionType"/>
```

```
            <xs:element name="displayWidth" type="tns:RationalType" minOccurs="0"/>
            <xs:element name="displayHeight" type="tns:RationalType" minOccurs="0"/>
            <xs:element name="displayXOffset" type="tns:RationalType" minOccurs="0"/>
            <xs:element name="displayYOffset" type="tns:RationalType" minOccurs="0"/>
            <xs:element name="containerSAR" type="tns:AspectRatioType" minOccurs="0"/>

            <xs:element name="forceCFR" minOccurs="0" maxOccurs="1" type="xs:boolean"/>
            <xs:element name="gopSize" type="xs:int" minOccurs="0"/>
            <xs:element name="maxBFrames" type="xs:int" minOccurs="0"/>
            <xs:element name="pixelFormat" type="xs:string" minOccurs="0" />
            <xs:element name="preset" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="profile" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="noVideo" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="stripParameterSets" type="xs:boolean" minOccurs="0"/>
            <xs:element name="addParameterSets" type="xs:boolean" minOccurs="0"/>
            <xs:element name="parameterSets" type="xs:hexBinary" minOccurs="0"/>
            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="burnTimecode" type="xs:boolean" minOccurs="0"/>
            <xs:element name="burnSubtitles" type="xs:boolean" minOccurs="0"/>
            <xs:element name="imageQuality" type="xs:integer" minOccurs="0"/>
            <xs:element name="otif" type="tns:OtifPresetType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="OtifPluginType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="audio"/>
            <xs:enumeration value="video"/>
        </xs:restriction>
    </xs:simpleType>
```

OtifPresetDocument

```
    <xs:element name="OtifPresetDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
    <xs:complexType name="OtifPresetType">
        <xs:sequence>
            <xs:element name="uuid" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="versionMajor" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="versionMinor" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="versionPatch" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="configuration" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unb
            <xs:element name="resource" type="tns:NameURIPairType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>
```

OtifConfigurationDocument

```
    <xs:element name="OtifConfigurationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="OtifConfigurationType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="title" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="preset" type="tns:OtifPresetType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="instance" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

OtifConfigurationListDocument

```
    <xs:element name="OtifConfigurationListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidis
    <xs:complexType name="OtifConfigurationListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="configuration" type="tns:OtifConfigurationType" maxOccurs="unbounded" m
        </xs:sequence>
    </xs:complexType>
```

OtifJobConfigurationDocument

```
    <xs:element name="OtifJobConfigurationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="OtifJobConfigurationType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0"/>
            <xs:element name="title" type="xs:string"/>
            <xs:element name="configurations" type="tns:OtifConfigurationListType"/>
            <xs:element name="vxa" type="tns:VXAType" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

OtifJobConfigurationListDocument

```
    <xs:element name="OtifJobConfigurationListDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="OtifJobConfigurationListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1" />
            <xs:element name="configuration" type="tns:OtifJobConfigurationType" minOccurs="0" maxOcc
        </xs:sequence>
    </xs:complexType>
```

OtifResourceDocument

```
    <xs:element name="OtifResourceDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="OtifResourceType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="size" type="xs:int" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

OtifResourceListDocument

```
    <xs:element name="OtifResourceListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="OtifResourceListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="resource" type="tns:OtifResourceType" maxOccurs="unbounded" minOccurs="
        </xs:sequence>
    </xs:complexType>
```

StorageRulesDocument

```
    <xs:element name="StorageRulesDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
```

StorageRuleDocument

```
    <xs:element name="StorageRuleDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type

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

```
            <xs:element name="default" type="tns:StorageRuleType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="tag" minOccurs="0" maxOccurs="unbounded" type="tns:StorageRuleType"/>
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="StorageCriteriaType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="bandwidth"/>
            <xs:enumeration value="capacity"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="StorageRuleType">
        <xs:sequence>
            <xs:element name="storageCount" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="priority" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:simpleContent>
                        <xs:extension base="tns:StorageCriteriaType">
                            <xs:attribute name="level" type="xs:integer" use="required"/>
                        </xs:extension>
                    </xs:simpleContent>
                </xs:complexType>
            </xs:element>
            <xs:element name="inherited" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="storage" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="not" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="storage" type="tns:SiteIdType" minOccurs="0" maxOccurs="unb
                        <xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="unbounded"
                        <xs:element name="any" type="tns:EmptyString" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="appliesTo" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="precedence" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
        <xs:attribute name="id" type="xs:string" use="optional"/>
    </xs:complexType>

    <xs:simpleType name="EmptyString">
        <xs:restriction base="xs:string">
            <xs:length value="0"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="IntegerOrEmpty">
        <!--xs:union memberTypes="xs:int tns:EmptyString"/-->
        <xs:restriction base="xs:string">
```

```
            <xs:pattern value="[0-9]{0,40}"/>
        </xs:restriction>
    </xs:simpleType>

    <!-- START GENERIC ITEM TYPES -->
```

ItemDocument

```
    <xs:element name="ItemDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:
    <xs:complexType name="ItemType">
        <xs:sequence>
            <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="thumbnails" type="tns:URIListType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="posters" type="tns:URIListType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="files" type="tns:URIListType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="terse" type="tns:GenericType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="shape" type="tns:ShapeType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="merged-access" type="tns:AccessControlMergedType" minOccurs="0" maxOccu
            <xs:element name="access" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="timespan" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="field" minOccurs="0" maxOccurs="unbounded">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs=
                                    <xs:element name="value" type="xs:string" minOccurs="0" maxOccurs
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:sequence>
                    <xs:attribute name="start" type="xs:string" use="required"/>
                    <xs:attribute name="end" type="xs:string" use="required"/>
                </xs:complexType>
            </xs:element>
            <xs:element name="externalId" type="tns:ExternalIdentifierType" minOccurs="0" maxOccurs="
        </xs:sequence>
        <xs:attribute name="id" type="tns:SiteIdType" use="optional"/>
        <xs:attribute name="start" type="xs:string" use="optional"/>
        <xs:attribute name="end" type="xs:string" use="optional"/>
        <xs:attribute name="base" type="xs:string" use="optional"/>
    </xs:complexType>

    <!--<xs:element name="TerseDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
    <xs:complexType name="TestType">
        <xs:sequence>
            <xs:element name="terse" type="vididyn:TerseType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>-->
```

TerseMetadataDocument

```
    <xs:element name="TerseMetadataDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
```

TerseMetadataListDocument

```
    <xs:element name="TerseMetadataListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="TerseMetadataListType">
        <xs:sequence>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:complexContent>
                        <xs:extension base="tns:GenericType">
                            <xs:attribute name="id" type="tns:SiteIdType" use="required"/>
                        </xs:extension>
                    </xs:complexContent>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="GenericType">
        <xs:sequence>
            <xs:any namespace="##any" minOccurs="0" maxOccurs="unbounded" processContents="skip"/>
        </xs:sequence>
    </xs:complexType>

    <!-- END GENERIC ITEM TYPES -->

<!-- START ACCESS CONTROL TYPES -->
```

AccessControlListDocument

```
    <xs:element name="AccessControlListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="AccessControlListType">
        <xs:sequence>
            <xs:element name="access" type="tns:AccessControlType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
    </xs:complexType>
```

AccessControlDocument

```
    <xs:element name="AccessControlDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="AccessControlType">
        <xs:sequence>
            <xs:element name="loc" type="xs:anyURI" minOccurs="0" />
            <xs:element name="grantor" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="recursive" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="permission" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="priority" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="operation" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:choice>
                        <xs:element name="metadata" type="tns:AccessControlMetadataType" minOccurs="1
                        <xs:element name="shape" type="tns:AccessControlShapeType" minOccurs="1" maxO
                        <xs:element name="uri" type="tns:AccessControlUriType" minOccurs="1" maxOccur
                    </xs:choice>
                </xs:complexType>
            </xs:element>
            <xs:choice>
                <xs:element name="group" type="xs:string" minOccurs="1" maxOccurs="1"/>
```

```
                <xs:element name="user" type="xs:string" minOccurs="1" maxOccurs="1"/>
            </xs:choice>
        </xs:sequence>
        <xs:attribute name="id" type="tns:SiteIdType"/>
    </xs:complexType>

    <xs:complexType name="AccessControlUriType">
        <xs:sequence>
            <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AccessControlShapeType">
        <xs:sequence>
            <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AccessControlMetadataType">
        <xs:sequence>
            <xs:element name="field" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
    <!-- END ACCESS CONTROL TYPES -->
```

TaskDefinitionListDocument

```
    <xs:element name="TaskDefinitionListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="TaskDefinitionListType">
        <xs:sequence>
            <xs:element name="task" type="tns:TaskDefinitionType" minOccurs="0" maxOccurs="unbounded"
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="TaskDefinitionDependency">
        <xs:sequence>
            <xs:element name="step" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="previous" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="allPrevious" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

TaskDefinitionDocument

```
    <xs:element name="TaskDefinitionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="TaskDefinitionType">
        <xs:sequence>
            <!-- Optional -->
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="extradata" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="flags" type="xs:integer" minOccurs="0" maxOccurs="1"/>

            <!-- Required -->
            <xs:choice>
                <xs:sequence>
                    <xs:element name="bean" type="xs:string" minOccurs="1" maxOccurs="1"/> <!-- requi
                    <xs:element name="method" type="xs:string" minOccurs="1" maxOccurs="1"/> <!-- req
                    <xs:element name="plugin" type="xs:boolean" minOccurs="0" maxOccurs="1"/> <!-- de
                </xs:sequence>
```

```
1675                <xs:element name="script" type="xs:string" minOccurs="1" maxOccurs="1"/>
1676            </xs:choice>
1677            <xs:element name="step" type="xs:integer" minOccurs="0" maxOccurs="1"/>
1678            <xs:element name="dependency" type="tns:TaskDefinitionDependency" minOccurs="0" maxOccurs
1679            <xs:element name="parallelDependency" type="tns:TaskDefinitionDependency" minOccurs="0" m
1680            <xs:element name="jobType" type="xs:string" minOccurs="0" maxOccurs="1"/>
1681            <xs:element name="cleanup" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
1682            <xs:element name="critical" type="xs:boolean" minOccurs="0" maxOccurs="1"/> <!-- default
1683        </xs:sequence>
1684        <xs:attribute name="id" type="xs:integer" use="optional"/>
1685    </xs:complexType>
1686
1687
1688
1689    <!-- START NOTIFICATION TYPES -->
```

NotificationDocument

```
1690    <xs:element name="NotificationDocument" type="tns:NotificationType" xmlns:tns="http://xml.vidisp
1691    <xs:complexType name="NotificationType">
1692        <xs:sequence>
1693            <xs:element name="action" minOccurs="1" maxOccurs="1">
1694                <xs:complexType>
1695                    <xs:choice>
1696                        <xs:element name="http" type="tns:NotificationHttpActionType"/>
1697                        <xs:element name="ejb" type="tns:NotificationEjbActionType"/>
1698                        <xs:element name="jms" type="tns:NotificationJmsActionType"/>
1699                        <xs:element name="javascript" type="tns:NotificationJavaScriptActionType"/>
1700                    </xs:choice>
1701                </xs:complexType>
1702            </xs:element>
1703            <xs:element name="trigger" minOccurs="1" maxOccurs="1">
1704                <xs:complexType>
1705                    <xs:choice>
1706                        <xs:element name="job" type="tns:NotificationJobTriggerType"/>
1707                        <xs:element name="metadata" type="tns:NotificationMetadataTriggerType"/>
1708                        <xs:element name="item" type="tns:NotificationItemTriggerType"/>
1709                        <xs:element name="collection" type="tns:NotificationCollectionTriggerType"/>
1710                        <xs:element name="storage" type="tns:NotificationStorageTriggerType"/>
1711                        <xs:element name="file" type="tns:NotificationFileTriggerType"/>
1712                        <xs:element name="group" type="tns:NotificationGroupTriggerType"/>
1713                        <xs:element name="access" type="tns:NotificationAccessTriggerType"/>
1714                        <xs:element name="shape" type="tns:NotificationShapeTriggerType"/>
1715                        <xs:element name="quota" type="tns:NotificationQuotaTriggerType"/>
1716                    </xs:choice>
1717                </xs:complexType>
1718            </xs:element>
1719        </xs:sequence>
1720    </xs:complexType>
1721
1722    <!-- START NOTIFICATION ACTION TYPES -->
1723    <xs:complexType name="NotificationActionType">
1724        <xs:sequence>
1725            <xs:element name="extradata" type="xs:string" minOccurs="0" maxOccurs="1"/>
1726            <xs:element name="retry" type="xs:integer"  minOccurs="0" maxOccurs="1"/>
1727        </xs:sequence>
1728        <xs:attribute name="synchronous" type="xs:boolean" use="required"/>
1729    </xs:complexType>
1730    <xs:complexType name="NotificationHttpActionType">
```

```
1731            <xs:complexContent>
1732                <xs:extension base="tns:NotificationActionType">
1733                    <xs:sequence>
1734                        <xs:element name="contentType" type="xs:string" minOccurs="0" maxOccurs="1"/> <!-
1735                        <xs:element name="url" type="xs:string" maxOccurs="1" minOccurs="1"/>
1736                        <xs:element name="method" type="xs:string" maxOccurs="1" minOccurs="0"/> <!-- de
1737                        <xs:element name="timeout" type="xs:string" maxOccurs="1" minOccurs="1"/> <!-- e
1738                    </xs:sequence>
1739                </xs:extension>
1740            </xs:complexContent>
1741        </xs:complexType>
1742        <xs:complexType name="NotificationJmsActionType">
1743            <xs:complexContent>
1744                <xs:extension base="tns:NotificationActionType">
1745                    <xs:sequence>
1746                        <xs:element name="contentType" type="xs:string" minOccurs="0" maxOccurs="1"/> <!-
1747                        <xs:element name="queueFactory" type="xs:string" maxOccurs="1" minOccurs="1"/>
1748                        <xs:element name="queue" type="xs:string" maxOccurs="1" minOccurs="1"/>
1749                        <xs:element name="username" type="xs:string" maxOccurs="1" minOccurs="0"/>
1750                        <xs:element name="password" type="xs:string" maxOccurs="1" minOccurs="0"/>
1751                    </xs:sequence>
1752                </xs:extension>
1753            </xs:complexContent>
1754        </xs:complexType>
1755        <xs:complexType name="NotificationEjbActionType">
1756            <xs:complexContent>
1757                <xs:extension base="tns:NotificationActionType">
1758                    <xs:sequence>
1759                        <xs:element name="bean" type="xs:string" maxOccurs="1" minOccurs="1"/>
1760                        <xs:element name="method" type="xs:string" maxOccurs="1" minOccurs="1"/>
1761                    </xs:sequence>
1762                </xs:extension>
1763            </xs:complexContent>
1764        </xs:complexType>
1765        <xs:complexType name="NotificationJavaScriptActionType">
1766            <xs:complexContent>
1767                <xs:extension base="tns:NotificationActionType">
1768                    <xs:sequence>
1769                        <xs:element name="script" type="xs:string" maxOccurs="1" minOccurs="1"/>
1770                    </xs:sequence>
1771                </xs:extension>
1772            </xs:complexContent>
1773        </xs:complexType>
1774        <!-- END NOTIFICATION ACTION TYPES -->
1775
1776        <!-- START NOTIFICATION TRIGGER TYPES -->
```

NotificationTriggerDocument

```
1777        <xs:element name="NotificationTriggerDocument" type="tns:NotificationTriggerType" xmlns:tns="http
1778
1779        <xs:complexType name="NotificationTriggerType">
1780            <xs:sequence>
1781                <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/> <!-- type, e.g. j
1782            </xs:sequence>
1783        </xs:complexType>
1784
1785        <xs:complexType name="NotificationJobTriggerType">
1786            <xs:complexContent>
```

```
            <xs:extension base="tns:NotificationTriggerType">
                <xs:sequence>
                    <xs:choice>
                        <xs:element name="update" type="xs:string"/>
                        <xs:element name="stop" type="xs:string"/>
                        <xs:element name="finished" type="xs:string"/>
                        <xs:element name="fail" type="xs:string"/>
                        <xs:element name="create" type="xs:string"/>
                    </xs:choice>
                    <xs:element type="xs:boolean" name="placeholder" minOccurs="0" maxOccurs="1"/>

                    <xs:element name="contentFilters" minOccurs="0">
                        <xs:complexType>
                            <xs:sequence>
                                <xs:element name="contentFilter" minOccurs="0" maxOccurs="unbounded"
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>

                    <xs:element name="filter" minOccurs="0">
                        <xs:complexType>
                            <xs:sequence>
                                <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/
                                <xs:element name="step" type="xs:int" minOccurs="0" maxOccurs="1"/>
                                <xs:element name="jobdata" minOccurs="0" maxOccurs="1">
                                    <xs:complexType>
                                        <xs:sequence>
                                            <xs:choice>
                                                <xs:element name="key" type="xs:string" />
                                                <xs:element name="key-regex" type="xs:string" />
                                            </xs:choice>
                                            <xs:choice>
                                                <xs:element name="value" type="xs:string" />
                                                <xs:element name="value-regex" type="xs:string" />
                                            </xs:choice>
                                        </xs:sequence>
                                    </xs:complexType>
                                </xs:element>
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:simpleType name="jobNotificationContentFilter">
        <xs:restriction base="xs:string">
            <xs:enumeration value="jobId"/>
            <xs:enumeration value="jobState"/>
            <xs:enumeration value="user"/>
            <xs:enumeration value="startTime"/>
            <xs:enumeration value="jobType"/>
            <xs:enumeration value="jobData"/>
            <xs:enumeration value="errorMessage"/>
            <xs:enumeration value="itemId"/>
            <xs:enumeration value="totalSteps"/>
            <xs:enumeration value="currentStep"/>
```

```
        </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="NotificationMetadataTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="modify">
                        <xs:complexType>
                            <xs:sequence>
                                <!-- Unset elements mean "all" -->
                                <xs:element name="field" type="xs:string" minOccurs="0" maxOccurs="1"
                                <xs:element name="track" type="xs:string" minOccurs="0" maxOccurs="1"
                                <xs:element name="language" type="xs:string" minOccurs="0" maxOccurs=
                                <xs:element name="interval" type="xs:string" minOccurs="0" maxOccurs=
                            </xs:sequence>
                        </xs:complexType>
                    </xs:element>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="NotificationItemTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="modify" type="xs:string"/>
                    <xs:element name="delete" type="xs:string"/>
                    <xs:element name="create" type="xs:string"/>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="NotificationCollectionTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="create" type="xs:string"/>
                    <xs:element name="delete" type="xs:string"/>
                    <xs:element name="modify" type="xs:string"/>
                    <xs:element name="item" type="tns:NotificationItemTriggerType"/>
                    <xs:element name="metadata" type="tns:NotificationMetadataTriggerType"/>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="NotificationStorageTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="delete" type="xs:string"/>
                    <xs:element name="create" type="xs:string"/>
                    <xs:element name="filename" type="xs:string"/>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="NotificationFileTriggerType">
```

```
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:sequence>
                    <xs:element name="storage" type="tns:SiteIdType" minOccurs="0" />
                    <xs:choice>
                        <xs:element name="new" type="xs:string" />
                        <xs:element name="delete" type="xs:string"/>
                        <xs:element name="change" type="xs:string"/>
                        <xs:element name="hash" type="xs:string"/>
                        <xs:element name="close" type="xs:string"/>
                    </xs:choice>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="NotificationGroupTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="modify" type="xs:string" />
                    <xs:element name="create" type="xs:string"/>
                    <xs:element name="delete" type="xs:string"/>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="NotificationAccessTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="create" type="xs:string"/>
                    <xs:element name="delete" type="xs:string"/>
                    <xs:element name="change" type="xs:string"/>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="NotificationShapeTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="modify" type="xs:string"/>
                    <xs:element name="create" type="xs:string"/>
                    <xs:element name="delete" type="xs:string"/>
                </xs:choice>
           </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="NotificationQuotaTriggerType">
        <xs:complexContent>
            <xs:extension base="tns:NotificationTriggerType">
                <xs:choice>
                    <xs:element name="create" type="xs:string"/>
                    <xs:element name="delete" type="xs:string"/>
```

```
                    <xs:element name="warning" type="xs:string"/>
                </xs:choice>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <!-- END NOTIFICATION TRIGGER TYPES -->

<!-- END NOTIFICATION TYPES -->

    <xs:element name ="SupportedProtocolsDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="SupportedProtocolsType">
        <xs:sequence>
            <xs:element name="source" minOccurs="1" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="protocol" type="xs:string" minOccurs="0" maxOccurs="unbound
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="output" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="protocol" type="xs:string" minOccurs="0" maxOccurs="unbound
                    </xs:sequence>
                    <xs:attribute name="shape" type="tns:SiteIdType" use="required"/>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

ItemRelationDocument

```
    <xs:element name="ItemRelationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="ItemRelationType">
        <xs:sequence>
            <xs:element name="id" maxOccurs="1" minOccurs="1" type="xs:string" />
            <xs:element name="direction" maxOccurs="1" minOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="source" type="xs:string" maxOccurs="1" minOccurs="1"/>
                        <xs:element name="target" type="xs:string" maxOccurs="1" minOccurs="1"/>
                    </xs:sequence>
                    <xs:attribute name="type" type="xs:string" use="required"/>
                </xs:complexType>
            </xs:element>
            <xs:element name="value" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                    <xs:simpleContent>
                        <xs:extension base="xs:string">
                            <xs:attribute name="key" type="xs:string" use="required"/>
                        </xs:extension>
                    </xs:simpleContent>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

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

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

ItemRelationListDocument

```
    <xs:element name="ItemRelationListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="ItemRelationListType">
        <xs:sequence>
            <xs:element name="relation" maxOccurs="unbounded" minOccurs="0" type="tns:ItemRelationTyp
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ItemSearchValueType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attribute name="minimum" type="xs:boolean" use="optional"/>
                <xs:attribute name="maximum" type="xs:boolean" use="optional"/>
                <xs:attribute name="noescape" type="xs:boolean" use="optional"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>


    <xs:complexType name="SearchOperatorType">
        <xs:sequence>
            <xs:element name="operator" minOccurs="0" maxOccurs="unbounded" type="tns:SearchOperator
            <xs:element name="field" minOccurs="0" maxOccurs="unbounded" type="tns:SearchFieldType"/>
            <xs:element name="group" minOccurs="0" maxOccurs="unbounded" type="tns:SearchGroupType"/>
            <xs:element name="reference" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="item" type="tns:ItemCriterionType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="shape" type="tns:ShapeCriterionType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="file" type="tns:CriterionType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
        <xs:attribute name="operation" type="tns:SearchOperationType" use="required"/>
    </xs:complexType>

    <xs:simpleType name="SearchOperationType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="AND"/>
            <xs:enumeration value="OR"/>
            <xs:enumeration value="NOT"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="SearchFieldType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" maxOccurs="1" minOccurs="1" />
            <xs:element name="value" type="tns:ItemSearchValueType" maxOccurs="unbounded" minOccurs="
            <xs:element name="range" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="value" type="tns:ItemSearchValueType" maxOccurs="2" minOccu
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
```

```
        <xs:attribute name="target" type="tns:SearchTargetType"/>
    </xs:complexType>

    <xs:simpleType name="SearchTargetType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="item"/>
            <xs:enumeration value="shape"/>
            <xs:enumeration value="file"/>
        </xs:restriction>
    </xs:simpleType>
```

MetadataFieldGroupSearchDocument

```
    <xs:element name="MetadataFieldGroupSearchDocument" xmlns:tns="http://xml.vidispine.com/schema/vi

    <xs:complexType name="SearchGroupType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="1"/>
            <!--<xs:element name="referenced" type="tns:MetadataReferencedType" minOccurs="0" maxOccu
            <xs:element name="operator" type="tns:SearchOperatorType" minOccurs="0" maxOccurs="1"/>
            <xs:choice>
                <xs:sequence>
                    <xs:element name="field" type="tns:SearchFieldType" minOccurs="0" maxOccurs="unbo
                    <xs:element name="group" type="tns:SearchGroupType" minOccurs="0" maxOccurs="unbo
                </xs:sequence>
                <xs:sequence>
                    <xs:element name="reference" type="xs:string" minOccurs="0" maxOccurs="1"/>
                </xs:sequence>
            </xs:choice>
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="SearchIntervalsType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="all"/>
            <xs:enumeration value="generic"/>
            <xs:enumeration value="timed"/>
        </xs:restriction>
    </xs:simpleType>
```

AutocompleteResponseDocument

```
    <xs:element name="AutocompleteResponseDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="AutocompleteResponseType">
        <xs:sequence>
            <xs:element name="suggestion" minOccurs="0" maxOccurs="unbounded" type="xs:string"/>
        </xs:sequence>
    </xs:complexType>
```

AutocompleteRequestDocument

```
    <xs:element name="AutocompleteRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="AutocompleteRequestType">
        <xs:sequence>
            <xs:element name="text" minOccurs="1" maxOccurs="1" type="xs:string"/>
        <xs:element name="field" minOccurs="0" maxOccurs="1" type="xs:string"/>
            <xs:element name="maximumSuggestions" minOccurs="0" maxOccurs="1" type="xs:int"/>
        </xs:sequence>
    </xs:complexType>
```

```
2127
2128        <xs:complexType name="SuggestionSearchType">
2129            <xs:sequence>
2130                <xs:element name="maximumSuggestions" type="xs:int" minOccurs="0" maxOccurs="1"/>
2131                <xs:element name="accuracy" type="xs:double" minOccurs="0" maxOccurs="1"/>
2132            </xs:sequence>
2133        </xs:complexType>
2134
2135        <xs:complexType name="SuggestionResultType">
2136            <xs:sequence>
2137                <xs:element name="term" minOccurs="1" maxOccurs="1" type="xs:string"/>
2138                <xs:element name="suggestion" minOccurs="0" maxOccurs="unbounded" type="xs:string"/>
2139            </xs:sequence>
2140        </xs:complexType>
```

GroupSearchDocument

```
2142        <xs:element name="GroupSearchDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
```

UserSearchDocument

```
2143        <xs:element name="UserSearchDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
2144        <xs:complexType name="SimpleSearchType">
2145            <xs:sequence>
2146                <xs:element name="sort" minOccurs="0" maxOccurs="unbounded">
2147                    <xs:complexType>
2148                        <xs:sequence>
2149                            <xs:element name="field" minOccurs="1" maxOccurs="1" type="xs:string"/>
2150                            <xs:element name="order" minOccurs="1" maxOccurs="1" type="tns:SortingOrderTy
2151                        </xs:sequence>
2152                    </xs:complexType>
2153                </xs:element>
2154                <xs:element name="field" type="tns:SimpleSearchFieldType" maxOccurs="unbounded" minOccurs
2155                <xs:element name="operator" type="tns:SimpleSearchOperatorType" minOccurs="0" maxOccurs="
2156            </xs:sequence>
2157        </xs:complexType>
2158
2159        <xs:complexType name="SimpleSearchOperatorType">
2160            <xs:sequence>
2161    <!--            <xs:element name="operator" minOccurs="0" maxOccurs="unbounded" type="tns:SimpleSearc
2162                <xs:element name="field" minOccurs="0" maxOccurs="unbounded" type="tns:SimpleSearchFieldT
2163            </xs:sequence>
2164            <xs:attribute name="operation" type="tns:SimpleSearchOperationType" use="required"/>
2165        </xs:complexType>
2166
2167        <xs:complexType name="SimpleSearchFieldType">
2168            <xs:sequence>
2169                <xs:element name="name" type="xs:string" maxOccurs="1" minOccurs="1" />
2170                <xs:element name="value" type="xs:string" maxOccurs="1" minOccurs="1" />
2171            </xs:sequence>
2172        </xs:complexType>
2173
2174        <xs:simpleType name="SimpleSearchOperationType">
2175            <xs:restriction base="xs:string">
2176                <xs:enumeration value="AND"/>
2177                <xs:enumeration value="OR"/>
2178            </xs:restriction>
2179        </xs:simpleType>
```

ShapeSearchDocument

```
<xs:element name="ShapeSearchDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
<xs:complexType name="ShapeSearchType">
  <xs:complexContent>
    <xs:extension base="tns:ItemSearchType">
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

FileSearchDocument

```
<xs:element name="FileSearchDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
<xs:complexType name="FileSearchType">
  <xs:complexContent>
    <xs:extension base="tns:ItemSearchType">
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

<xs:complexType name="ItemSearchTextValueType">
    <xs:simpleContent>
        <xs:extension base="xs:string">
            <xs:attribute name="noescape" type="xs:boolean" use="optional"/>
        </xs:extension>
    </xs:simpleContent>
</xs:complexType>

<xs:complexType name="SearchFilterType">
  <xs:sequence>
    <xs:element name="operator" minOccurs="0" maxOccurs="unbounded" type="tns:SearchOperatorType"
    <xs:element name="field" minOccurs="0" maxOccurs="unbounded" type="tns:SearchFieldType"/>
    <xs:element name="group" minOccurs="0" maxOccurs="unbounded" type="tns:SearchGroupType"/>
    <xs:element name="reference" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element name="item" type="tns:ItemCriterionType" minOccurs="0" maxOccurs="1"/>
    <xs:element name="shape" type="tns:ShapeCriterionType" minOccurs="0" maxOccurs="1"/>
    <xs:element name="file" type="tns:CriterionType" minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
  <xs:attribute name="operation" type="tns:SearchOperationType" default="AND"/>
  <xs:attribute name="name" type="xs:string"/>
</xs:complexType>
```

ItemSearchDocument

```
<xs:element name="ItemSearchDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
<xs:complexType name="ItemSearchType">
    <xs:sequence>
        <xs:element name="text" type="tns:ItemSearchTextValueType" maxOccurs="unbounded" minOccu
        <xs:element name="field" type="tns:SearchFieldType" maxOccurs="unbounded" minOccurs="0"/>
        <xs:element name="group" type="tns:SearchGroupType" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element name="intervals" type="tns:SearchIntervalsType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="reference" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="operator" type="tns:SearchOperatorType" minOccurs="0" maxOccurs="1"
        <xs:element name="filter" type="tns:SearchFilterType" minOccurs="0" maxOccurs="unbounded"

        <xs:element name="item" type="tns:ItemCriterionType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="shape" type="tns:ShapeCriterionType" minOccurs="0" maxOccurs="1"/>
        <xs:element name="file" type="tns:CriterionType" minOccurs="0" maxOccurs="1"/>

        <xs:element name="facetFilter" minOccurs="0" maxOccurs="unbounded">
```

```
            <xs:complexType>
              <xs:sequence>
                <xs:element name="field" minOccurs="1" maxOccurs="1" type="xs:string" />
                <xs:choice>
                  <xs:element name="range" minOccurs="1" maxOccurs="1" type="tns:FacetRangeType" />
                  <xs:element name="value" minOccurs="1" maxOccurs="1" type="xs:string" />
                </xs:choice>
              </xs:sequence>
            </xs:complexType>
            </xs:element>
              <xs:element name="facet" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="field" minOccurs="1" maxOccurs="1" type="xs:string" />
                    <xs:element name="range" minOccurs="0" maxOccurs="unbounded" type="tns:FacetRange
                    <xs:element name="exclude" minOccurs="0" maxOccurs="unbounded" type="xs:string" /
                  </xs:sequence>
                  <xs:attribute name="count" default="false" type="xs:boolean" />
                  <xs:attribute name="name" type="xs:string" />
                </xs:complexType>
              </xs:element>
              <xs:element name="sort" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="field" minOccurs="1" maxOccurs="1" type="xs:string" />
                    <xs:element name="order" minOccurs="1" maxOccurs="1" type="tns:SortingOrderType"
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="highlight" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="field" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
                    <xs:element name="matchingOnly" type="xs:boolean" minOccurs="0" maxOccurs="1" />
                    <xs:element name="prefix" type="xs:string" minOccurs="0" maxOccurs="1" />
                    <xs:element name="suffix" type="xs:string" minOccurs="0" maxOccurs="1" />
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="suggestion" minOccurs="0" maxOccurs="1" type="tns:SuggestionSearchTyp
              </xs:sequence>
        <xs:attribute name="version" type="xs:int" use="optional"/>
    </xs:complexType>

    <xs:complexType name="CriterionType">
      <xs:sequence>
        <xs:element name="field" type="tns:SearchFieldType" maxOccurs="unbounded" minOccurs="0"/>
        <xs:element name="group" type="tns:SearchGroupType" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element name="operator" type="tns:SearchOperatorType" minOccurs="0" maxOccurs="1"/>
      </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ItemCriterionType">
      <xs:complexContent>
        <xs:extension base="tns:CriterionType">
          <xs:sequence>
            <xs:element name="shape" type="tns:ShapeCriterionType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="file" type="tns:CriterionType" minOccurs="0" maxOccurs="1"/>
```

```
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="ShapeCriterionType">
      <xs:complexContent>
        <xs:extension base="tns:CriterionType">
          <xs:sequence>
            <xs:element name="file" type="tns:CriterionType" minOccurs="0" maxOccurs="1"/>
          </xs:sequence>
        </xs:extension>
      </xs:complexContent>
    </xs:complexType>
```

ItemListDocument

```
    <xs:element name="ItemListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="ItemListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="library" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded" type="tns:ItemType"/>
            <xs:element name="facet" minOccurs="0" maxOccurs="unbounded" type="tns:FacetType"/>
            <xs:element name="suggestion" minOccurs="0" maxOccurs="unbounded" type="tns:SuggestionRes
        </xs:sequence>
    </xs:complexType>

           <xs:element name="ShapeListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
        <xs:complexType name="ShapeListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="shape" minOccurs="0" maxOccurs="unbounded" type="tns:ShapeType"/>
                    <xs:element name="facet" minOccurs="0" maxOccurs="unbounded" type="tns:FacetType"
                    <xs:element name="suggestion" minOccurs="0" maxOccurs="unbounded" type="tns:Sugge
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FacetType">
        <xs:sequence>
            <xs:element name="field" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="count" minOccurs="0" maxOccurs="unbounded" type="tns:FacetCountType"/>
            <xs:element name="range" minOccurs="0" maxOccurs="unbounded" type="tns:FacetRangeType"/>
        </xs:sequence>
        <xs:attribute name="name" type="xs:string" />
    </xs:complexType>

    <xs:complexType name="FacetCountType">
        <xs:simpleContent>
            <xs:extension base="xs:long">
                <xs:attribute name="fieldValue" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>

    <xs:complexType name="FacetRangeType">
        <xs:simpleContent>
            <xs:extension base="tns:IntegerOrEmpty">
```

```
                <xs:attribute name="start" type="xs:string" use="required"/>
                <xs:attribute name="end" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
```

MetadataChangeSetDocument

```
    <xs:element name="MetadataChangeSetDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine


    <xs:complexType name="MetadataChangeSetType">
        <xs:sequence>
            <xs:element name="changeSet" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="metadata" type="tns:MetadataType" minOccurs="1" maxOccurs="
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

JobListDocument

```
    <xs:element name="JobListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="JobListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="job" type="tns:JobType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

JobDocument

```
    <xs:element name="JobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:Jo
    <xs:complexType name="JobType">
        <xs:sequence>
            <xs:element name="jobId" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="user" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="started" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="status" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="subJob" type="tns:JobType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="priority" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="waiting" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="resourceId" type="tns:SiteIdType" minOccurs="0" maxOccurs="
                        <xs:element name="resourceType" type="xs:string" minOccurs="0" maxOccurs="1"
                        <xs:element name="requirement" type="xs:string" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="currentStep" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="description" type="xs:string" minOccurs="1" maxOccurs="1"/>
```

```
                        <xs:element name="number" type="xs:int" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="status" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="data" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="key" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="value" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="totalSteps" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="log" minOccurs="0" maxOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="task" type="tns:JobTaskType" minOccurs="0" maxOccurs="unbou
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="JobTaskType">
        <xs:sequence>
            <xs:element name="step" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="attempts" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="status" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="timestamp" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="progress" type="tns:JobTaskProgressType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="subStep" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="timestamp" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="description" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="errorMessage" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="totalSubTasks" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="subTask" type="tns:JobTaskType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
        <xs:attribute name="id" type="xs:int" use="optional"/>
    </xs:complexType>

    <xs:complexType name="JobTaskProgressType">
        <xs:simpleContent>
            <xs:extension base="xs:decimal">
                <xs:attribute name="total" type="xs:long" use="optional"/>
                <xs:attribute name="unit" type="tns:JobTaskProgressType_unit" use="optional"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>

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

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

StorageMethodListDocument

```
    <xs:element name="StorageMethodListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="StorageMethodListType">
        <xs:sequence>
            <xs:element name="method" type="tns:StorageMethodType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="StorageMethodType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="loc"  type="xs:anyURI" minOccurs="0"/>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0"/>
            <xs:element name="uri"  type="xs:anyURI"/>
            <xs:element name="bandwidth" minOccurs="0" type="xs:long"/>
            <xs:element name="read" minOccurs="1" type="xs:boolean"/>
            <xs:element name="write" minOccurs="1" type="xs:boolean"/>
            <xs:element name="browse" minOccurs="1" type="xs:boolean"/>
            <xs:element name="lastSuccess" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="lastFailure" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="failureMessage" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
    </xs:complexType>
```

StorageDocument

```
    <xs:element name="StorageDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="StorageType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="state" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="capacity" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="freeCapacity" minOccurs="0" type="xs:long"/>
            <xs:element name="bandwidth" minOccurs="0" type="xs:long"/>
            <xs:element name="timestamp" minOccurs="0" type="xs:dateTime"/>
            <xs:element name="method" type="tns:StorageMethodType" maxOccurs="unbounded" minOccurs="0
            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
            <xs:element name="lowWatermark" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="highWatermark" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="lowWatermarkPercentage" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="highWatermarkPercentage" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="autoDetect" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="bean" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="showImportables" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="projection" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="scanInterval" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="archiveScript" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

StorageListDocument

```
    <xs:element name="StorageListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
    <xs:complexType name="StorageListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="storage" type="tns:StorageType" maxOccurs="unbounded" minOccurs="0"></x
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="VXAStatus">
        <xs:restriction base="xs:string">
            <xs:enumeration value="OFFLINE"/>
            <xs:enumeration value="ONLINE"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="VXAStorageType">
        <xs:sequence minOccurs="1" maxOccurs="1">
            <xs:element name="name" type="tns:SiteIdType" minOccurs="1"/>
            <xs:element name="id" type="xs:string" minOccurs="1"/>
            <xs:element name="path" type="xs:string" minOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

VXADocument

```
    <xs:element name="VXADocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:VX
    <xs:complexType name="VXAType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="uuid" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="user" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="allStorages" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="storage" type="tns:VXAStorageType" minOccurs="0" maxOccurs="unbounded"/
            <xs:element name="file" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="instance" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="vxaVersion" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="transcoderVersion" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="port" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="status" type="tns:VXAStatus" minOccurs="0" maxOccurs="1"/>
            <xs:element name="lastSeen" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="mode" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

VXAListDocument

```
    <xs:element name="VXAListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="VXAListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="vxa" type="tns:VXAType" maxOccurs="unbounded" minOccurs="0"></xs:elemen
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="OSName">
        <xs:restriction base="xs:string">
            <xs:enumeration value="DEBIAN32"/>
            <xs:enumeration value="DEBIAN64"/>
            <xs:enumeration value="REDHAT32"/>
```

```
            <xs:enumeration value="REDHAT64"/>
            <xs:enumeration value="WINDOWS32"/>
            <xs:enumeration value="WINDOWS64"/>
            <xs:enumeration value="MACOSX32"/>
            <xs:enumeration value="MACOSX64"/>
        </xs:restriction>
    </xs:simpleType>
```

OtifOSDocment

```
    <xs:element name="OtifOSDocment" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns
    <xs:complexType name="OtifOSType">
        <xs:sequence>
            <xs:element name="name" type="tns:OSName" minOccurs="1" maxOccurs="1"/>
            <xs:element name="file" type="xs:string" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

OtifTranscoderPluginDocment

```
    <xs:element name="OtifTranscoderPluginDocment" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="OtifTranscoderPluginType">
        <xs:sequence>
            <xs:element name="pluginType" type="tns:OtifPluginType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="os" type="tns:OtifOSType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="file" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

OtifVxaPluginDocment

```
    <xs:element name="OtifVxaPluginDocment" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="OtifVxaPluginType">
        <xs:sequence>
            <xs:element name="file" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

OtifDocument

```
    <xs:element name="OtifDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:O
    <xs:complexType name="OtifType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <!-- UUID used in presets/analyze/complex-jobs to tell which plugin to use -->
            <xs:element name="uuid" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <!-- pluginName - human readable name of plugin -->
            <xs:element name="pluginName" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <!-- vendorName Plugin vendor name -->
            <xs:element name="vendorName" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="versionMajor" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="versionMinor" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <xs:element name="versionPatch" type="xs:int" minOccurs="1" maxOccurs="1"/>
            <!-- Optional transcoderPlugin, at least one of transcoderPlugin and vxaPlugin must be pr
            <xs:element name="transcoderPlugin" type="tns:OtifTranscoderPluginType" minOccurs="0" max
            <!-- Optional vxaPlugin, at least one of transcoderPlugin and vxaPlugin must be present
            <xs:element name="vxaPlugin" type="tns:OtifVxaPluginType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

OtifListDocument

```
    <xs:element name="OtifListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="OtifListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="otif" type="tns:OtifType" maxOccurs="unbounded" minOccurs="0"></xs:eler
        </xs:sequence>
    </xs:complexType>
```

VXAStorageCapacityDocument

```
    <xs:element name="VXAStorageCapacityDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="VXAStorageCapacityType">
        <xs:sequence minOccurs="1" maxOccurs="1">
            <xs:element name="free" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="total" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="used" type="xs:long" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

QuotaRuleListDocument

```
    <xs:element name="QuotaRuleListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="QuotaRuleListType">
        <xs:sequence>
            <xs:element name="rule" type="tns:QuotaRuleType" minOccurs="0" maxOccurs="unbounded"></xs
        </xs:sequence>
    </xs:complexType>
```

QuotaRuleDocument

```
    <xs:element name="QuotaRuleDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="
    <xs:complexType name="QuotaRuleType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>

            <!-- Filters -->
            <xs:choice minOccurs="0">
                <xs:element name="user" type="xs:string"/>
                <xs:element name="group" type="xs:string"/>
            </xs:choice>
            <xs:choice minOccurs="0">
                <xs:element name="collection" type="tns:SiteIdType"/>
                <xs:element name="library" type="tns:SiteIdType"/>
            </xs:choice>
            <xs:choice minOccurs="0">
                <xs:element name="storage" type="tns:SiteIdType"/>
                <xs:element name="storageGroup" type="tns:SiteIdType"/>
            </xs:choice>
            <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="1"/>

            <!-- Resource Limits -->
            <xs:element name="resource" minOccurs="1" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="tns:QuotaResourceType" minOccurs="1" maxOccurs=
                        <xs:element name="limit" type="xs:long" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="usage" type="xs:long" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
```

```
2673                </xs:complexType>
2674            </xs:element>
2675
2676            <!-- Other -->
2677            <xs:element name="updateFrequency" type="xs:int" minOccurs="0" maxOccurs="1"/>
2678            <xs:element name="lastUpdate" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
2679            <xs:element name="externalId" type="tns:ExternalIdentifierType" minOccurs="0" maxOccurs="
2680        </xs:sequence>
2681    </xs:complexType>
2682
2683    <xs:simpleType name="QuotaResourceType">
2684        <xs:restriction base="xs:string">
2685            <xs:enumeration value="item"/>
2686            <xs:enumeration value="storage"/>
2687        </xs:restriction>
2688    </xs:simpleType>
2689
2690    <xs:complexType name="TranscoderDirectAccess">
2691        <xs:sequence>
2692            <xs:element name="filter" type="xs:string" minOccurs="1" maxOccurs="1"/>
2693            <xs:element name="rewrite" minOccurs="0" maxOccurs="unbounded">
2694                <xs:complexType>
2695                    <xs:sequence>
2696                        <xs:element type="xs:string" name="pattern" minOccurs="1" maxOccurs="1"/>
2697                        <xs:element type="xs:string" name="replacement" minOccurs="1" maxOccurs="1"/>
2698                    </xs:sequence>
2699                </xs:complexType>
2700            </xs:element>
2701        </xs:sequence>
2702    </xs:complexType>
2703
2704    <xs:complexType name="TranscoderType">
2705        <xs:sequence maxOccurs="1" minOccurs="1">
2706            <xs:element name="url" type="xs:anyURI"></xs:element>
2707            <xs:element name="version" type="xs:string" minOccurs="0"></xs:element>
2708            <xs:element name="reverseAddress" type="xs:string" minOccurs="0"></xs:element>
2709            <xs:element name="reverseAddressDetected" type="xs:string" minOccurs="0"></xs:element>
2710            <xs:element name="directAccess" type="tns:TranscoderDirectAccess" minOccurs="0" maxOccurs
2711            <xs:element name="state" type="xs:string" minOccurs="0" maxOccurs="1"/>
2712            <xs:element name="job" type="tns:JobStatusType" minOccurs="0" maxOccurs="unbounded"/>
2713            <xs:element name="configuration" type="tns:TranscoderConfigurationType" minOccurs="0" max
2714        </xs:sequence>
2715    </xs:complexType>
2716
2717    <xs:complexType name="FinalCutServerType">
2718        <xs:sequence maxOccurs="1" minOccurs="1">
2719            <xs:element name="url" type="xs:anyURI"></xs:element>
2720            <xs:element name="tag" type="xs:string"></xs:element>
2721            <xs:element name="state" type="xs:string" minOccurs="0" maxOccurs="1" />
2722            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
2723            <xs:element name="description" type="xs:string" minOccurs="0" />
2724        </xs:sequence>
2725    </xs:complexType>
2726
2727    <xs:complexType name="MXFServerResourceType">
2728        <xs:sequence maxOccurs="1" minOccurs="1">
2729            <xs:element name="url" type="xs:anyURI"></xs:element>
2730            <xs:element name="workspaceUrl" type="xs:anyURI"></xs:element>
```

```
            <xs:element name="userWorkspaceUrl" type="xs:anyURI"></xs:element>
            <xs:element name="mxfServerWorkspacePath" type="xs:string"></xs:element>
            <xs:element name="mxfServerUserId" type="xs:integer"></xs:element>
            <xs:element name="mxfServerPathToStorage" type="xs:anyURI"></xs:element>
            <xs:element name="databaseName" type="xs:string"/>
            <xs:element name="storageId" type="tns:SiteIdType"></xs:element>
            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
            <xs:element name="description" type="xs:string" minOccurs="0" />
            <xs:element name="atomShapes" type="xs:string" minOccurs="0" />
            <xs:element name="importShapes" type="xs:string" minOccurs="0" />
            <xs:element name="detectAtom" type="xs:boolean" minOccurs="0" />
            <xs:element name="enforceQuota" type="xs:boolean" minOccurs="0" />
            <xs:element name="fileImportPattern" type="xs:string" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="SigniantType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="tag" type="xs:string" />
            <xs:element name="url" type="xs:anyURI" />
            <xs:element name="username" type="xs:string" />
            <xs:element name="password" type="xs:string" />
            <xs:element name="description" type="xs:string" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="NetworkType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="netmask" type="xs:anyURI"></xs:element>
            <xs:element name="bandwidth" minOccurs="0" type="xs:long"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ThumbnailServiceType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="path" type="xs:string"></xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="LDAPImportType">
        <xs:sequence>
            <xs:element name="interval" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="importOrganizationalUnits" type="xs:boolean" minOccurs="0" maxOccurs="1

            <xs:sequence minOccurs="0" maxOccurs="1">
                <xs:element name="plugin" type="xs:string" minOccurs="1" maxOccurs="1"/>
                <xs:element name="pluginParameters" type="tns:SimpleMetadataType" minOccurs="1" maxOc
            </xs:sequence>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="LDAPSyncType">
        <xs:complexContent>
            <xs:extension base="tns:LDAPImportType">
                <xs:sequence>
                    <xs:element name="createUsers" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="createGroups" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
                </xs:sequence>
```

```
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="LDAPResourceType">
        <xs:sequence>
            <!-- Required -->
            <xs:element name="url" type="xs:string" minOccurs="1" maxOccurs="unbounded"/>
            <xs:element name="useStartTLS" type="xs:boolean" minOccurs="1" maxOccurs="1"/>
            <xs:element name="userDN" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="usernameAttribute" type="xs:string" minOccurs="1" maxOccurs="1"/>

            <!-- Optional -->
            <xs:element name="userSearchFilter" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="bindDN" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="bindPassword" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="cacheLifetime" type="xs:long" minOccurs="0" maxOccurs="1"/>

            <xs:element name="groupDN" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="groupSearchFilter" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="realNameAttribute" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="groupnameAttribute" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="usernameFormat" type="xs:string" minOccurs="0" maxOccurs="1"/>

        <xs:element name="sync" type="tns:LDAPSyncType" minOccurs="0" maxOccurs="1"/>

        <!-- Deprecated. Use sync instead -->
            <xs:element name="import" type="tns:LDAPImportType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ExternalTranscoderType">
        <xs:sequence>
            <xs:element name="source" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="destination" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="shapeTag" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="timeout" type="xs:long" maxOccurs="1" minOccurs="1"/>
            <xs:element name="regex" type="xs:string" maxOccurs="1" minOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="CerifyType">
        <xs:sequence>
            <xs:element name="address" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="mediaLocation" maxOccurs="unbounded" minOccurs="1">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="xs:string" maxOccurs="1" minOccurs="1"/>
                        <xs:element name="storageMethod" type="tns:SiteIdType" maxOccurs="unbounded"
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="cleanup" type="xs:boolean" maxOccurs="1" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>
```

ExternalTranscodeJobDocument

```
    <xs:element name="ExternalTranscodeJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="ExternalTranscodeJobType">
        <xs:sequence>
            <xs:element name="sourceUri" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="format" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="transcoder" type="tns:ExternalTranscoderType" maxOccurs="1" minOccurs="
            <xs:element name="regex" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="storageId" type="xs:string" maxOccurs="1" minOccurs="1"/>
            <xs:element name="username" type="xs:string" maxOccurs="1" minOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ResourceDocument

```
    <xs:element name="ResourceDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="ResourceType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0"/>
            <xs:element name="state" type="xs:string" minOccurs="0"/>
            <xs:choice>
                <xs:element name="network" type="tns:NetworkType"></xs:element>
                <xs:element name="transcoder" type="tns:TranscoderType"></xs:element>
                <xs:element name="externalTranscoder" type="tns:ExternalTranscoderType"></xs:element>
                <xs:element name="cerify" type="tns:CerifyType"></xs:element>
                <xs:element name="thumbnail" type="tns:ThumbnailServiceType"></xs:element>
                <xs:element name="finalcutserver" type="tns:FinalCutServerType"></xs:element>
                <xs:element name="mxfserver" type="tns:MXFServerResourceType"></xs:element>
                <xs:element name="signiant" type="tns:SigniantType"></xs:element>
                <xs:element name="ldap" type="tns:LDAPResourceType"/>
                <xs:element name="unknown" type="xs:string"></xs:element>
            </xs:choice>
        </xs:sequence>
    </xs:complexType>
```

ResourceListDocument

```
    <xs:element name="ResourceListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="ResourceListType">
            <xs:sequence>
                <xs:element name="resource" type="tns:ResourceType" maxOccurs="unbounded" minOccurs="
            </xs:sequence>
    </xs:complexType>
```

ResourceTypeListDocument

```
    <xs:element name="ResourceTypeListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="ResourceTypeListType">
            <xs:sequence>
                <xs:element name="resourcetype" maxOccurs="unbounded" minOccurs="0">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="type" type="xs:string"></xs:element>
                            <xs:element name="url" type="xs:anyURI" minOccurs="0"></xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
    </xs:complexType>
```

MetadataListDocument

```
    <xs:element name="MetadataListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="MetadataListType">
        <xs:sequence>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="metadata" minOccurs="0" maxOccurs="1" type="tns:MetadataTyp
                    </xs:sequence>
                    <xs:attribute name="id" type="tns:SiteIdType" />
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

MetadataLockDocument

```
    <xs:element name="MetadataLockDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="MetadataLockType">
        <xs:sequence>
            <xs:element name="id" type="xs:string"></xs:element>
            <xs:element name="user" type="xs:string"></xs:element>
            <xs:element name="expires" type="xs:dateTime"></xs:element>
            <xs:element name="field" type="xs:string" maxOccurs="unbounded" minOccurs="0"></xs:elemen
        </xs:sequence>
    </xs:complexType>
```

MetadataLockListDocument

```
    <xs:element name="MetadataLockListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"

    <xs:complexType name="MetadataLockListType">
        <xs:sequence>
            <xs:element name="lock" type="tns:MetadataLockType" maxOccurs="unbounded" minOccurs="0"><
        </xs:sequence>
    </xs:complexType>
```

CollectionListDocument

```
    <xs:element name="CollectionListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="CollectionListType">
        <xs:sequence>
            <xs:element name="hits" minOccurs="0" maxOccurs="1" type="xs:integer" />
            <xs:element name="collection" minOccurs="0" maxOccurs="unbounded" type="tns:CollectionTyp
            <xs:element name="facet" minOccurs="0" maxOccurs="unbounded" type="tns:FacetType"/>
            <xs:element name="suggestion" minOccurs="0" maxOccurs="unbounded" type="tns:SuggestionRes
        </xs:sequence>
    </xs:complexType>
```

CollectionDocument

```
    <xs:element name="CollectionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
    <xs:complexType name="CollectionType">
        <xs:sequence>
            <xs:element name="loc" type="xs:anyURI" minOccurs="0"/>
            <xs:element name="id" type="tns:SiteIdType"/>
            <xs:element name="name" type="xs:string" minOccurs="0"/>
            <xs:element name="content" type="tns:CollectionContentType" minOccurs="0" maxOccurs="unbo
            <xs:element name="project" type="tns:ProjectType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="sequence" type="tns:SequenceType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
```

```
            <xs:element name="terse" type="tns:GenericType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="merged-access" type="tns:AccessControlMergedType" minOccurs="0" maxOccu
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="CollectionContentType">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="uri" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

UserDocument

```
    <xs:element name="UserDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:U
    <xs:complexType name="UserType">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="loc" type="xs:anyURI" minOccurs="0" />  <!-- output only -->
            <xs:element name="userName" type="xs:string"></xs:element>
            <xs:element name="realName" type="xs:string" minOccurs="0"></xs:element>
            <xs:element name="password" type="xs:string" minOccurs="0"></xs:element>
            <xs:element name="salt" type="xs:string" minOccurs="0" maxOccurs="1" />
            <xs:element name="groupList" type="tns:GroupListType" maxOccurs="1" minOccurs="0"></xs:el
            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
            <xs:element name="origin" type="xs:string" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
        <xs:attribute name="disabled" type="xs:boolean" use="optional"/>
        <xs:attribute name="remove" type="xs:boolean" use="optional"/>
    </xs:complexType>
```

UserListDocument

```
    <xs:element name="UserListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="UserListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="user" type="tns:UserType" maxOccurs="unbounded" minOccurs="0"></xs:elem
        </xs:sequence>
    </xs:complexType>
```

GroupDocument

```
    <xs:element name="GroupDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns
    <xs:complexType name="GroupType">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="loc" type="xs:anyURI" minOccurs="0" maxOccurs="1" /> <!-- output only
            <xs:element name="groupName" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="role" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="childGroupList" type="tns:GroupListType" maxOccurs="1" minOccurs="0"></
            <xs:element name="parentGroupList" type="tns:GroupListType" maxOccurs="1" minOccurs="0"></
            <xs:element name="userList" type="tns:UserListType" maxOccurs="1" minOccurs="0"></xs:elem
            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
            <xs:element name="origin" type="xs:string" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
        <xs:attribute name="remove" type="xs:boolean" use="optional"/>
```

```
3003     </xs:complexType>
```

GroupListDocument

```
3005     <xs:element name="GroupListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="
3006     <xs:complexType name="GroupListType">
3007         <xs:sequence>
3008             <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
3009             <xs:element name="group" type="tns:GroupType" maxOccurs="unbounded" minOccurs="0"></xs:el
3010         </xs:sequence>
3011     </xs:complexType>
```

SimpleMetadataDocument

```
3013     <xs:element name="SimpleMetadataDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
```

ConformDocument

```
3015     <xs:element name="ConformDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
3016
3017     <xs:complexType name="ConformType">
3018         <xs:sequence>
3019             <xs:element name="timeBase" type="tns:TimeBaseType" minOccurs="0" maxOccurs="1" />
3020             <xs:element name="timeline" type="tns:ConformTimelineType" minOccurs="1" maxOccurs="1" />
3021             <xs:element name="overlay" type="tns:ConformOverlayType" minOccurs="0" maxOccurs="unbound
3022         </xs:sequence>
3023     </xs:complexType>
3024
3025     <xs:complexType name="ConformOverlayType">
3026         <xs:sequence>
3027             <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
3028             <xs:element name="x" type="xs:int" minOccurs="1" maxOccurs="1"/>
3029             <xs:element name="y" type="xs:int" minOccurs="1" maxOccurs="1"/>
3030             <xs:element name="interval" type="tns:TimeIntervalType" minOccurs="0"/>
3031         </xs:sequence>
3032     </xs:complexType>
3033
3034     <xs:complexType name="ConformTimelineType">
3035         <xs:sequence>
3036             <xs:element name="segment" type="tns:ConformSegmentType" minOccurs="0" maxOccurs="unbound
3037         </xs:sequence>
3038     </xs:complexType>
3039
3040     <xs:complexType name="ConformSegmentType">
3041         <xs:sequence>
3042             <xs:element name="source" type="tns:ConformSourceType" minOccurs="1" maxOccurs="1" />
3043             <xs:element name="destination" type="tns:ConformDestinationType" minOccurs="0" maxOccurs=
3044         </xs:sequence>
3045     </xs:complexType>
3046
3047     <xs:complexType name="ConformSourceType">
3048         <xs:sequence>
3049             <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1" />
3050             <xs:element name="interval" type="tns:ConformIntervalType" minOccurs="0" maxOccurs="1" />
3051         </xs:sequence>
3052     </xs:complexType>
3053
3054     <xs:complexType name="ConformDestinationType">
3055         <xs:sequence>
```

```
            <xs:element name="interval" type="tns:ConformIntervalType" minOccurs="1" maxOccurs="1" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ConformIntervalType">
        <xs:sequence>
            <xs:element name="start" type="tns:ConformTimePointType" minOccurs="1" maxOccurs="1" />
            <xs:element name="end" type="tns:ConformTimePointType" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ConformTimePointType">
        <xs:sequence>
            <xs:element name="samples" type="xs:integer" minOccurs="1" maxOccurs="1" />
            <xs:element name="timeBase" type="tns:TimeBaseType" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
    </xs:complexType>
```

JobPoolDocument

```
    <xs:element name="JobPoolDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="JobPoolType">
        <xs:sequence>
            <xs:element name="priorityThreshold" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="size" type="xs:int" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

MetricsConfigurationDocument

```
    <xs:element name="MetricsConfigurationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="MetricsConfigurationType">
        <xs:sequence>
            <xs:element name="statsd" type="tns:StatsdReporterType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="StatsdReporterType">
        <xs:complexContent>
            <xs:extension base="tns:MetricsReporterType">
                <xs:sequence maxOccurs="1" minOccurs="1">
                    <xs:element name="host" type="xs:string" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="port" type="xs:int" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="prefix" type="xs:string" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="tags" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="MetricsReporterType">
        <xs:sequence>
            <xs:element name="exclude" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="include" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

IndexingConfigurationDocument

```
    <xs:element name="IndexingConfigurationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidis
    <xs:complexType name="IndexingConfigurationType">
        <xs:sequence>
            <xs:choice>
                <xs:sequence>
                    <xs:element name="solrPath" type="xs:string" minOccurs="1" maxOccurs="1"/>
                </xs:sequence>
                <xs:sequence>
                    <xs:element name="solrCollection" type="xs:string" minOccurs="1" maxOccurs="1"/>
                    <xs:element name="zookeeperHost" type="xs:string" minOccurs="1" maxOccurs="unbour
                </xs:sequence>
            </xs:choice>
            <xs:element name="commitInterval" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="softCommitInterval" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="autoSoftCommit" type="xs:boolean" minOccurs="0" maxOccurs="1"/>

            <xs:element name="pingAttempts" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="pingTimeout" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="queryTimeout" type="xs:int" minOccurs="0" maxOccurs="1"/>

            <xs:element name="fieldDefault" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="fullText" type="xs:boolean" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

JobPoolListDocument

```
    <xs:element name="JobPoolListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
    <xs:complexType name="JobPoolListType">
        <xs:sequence>
            <xs:element name="concurrentJobs" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="pool" type="tns:JobPoolType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

FtpPoolConfigurationDocument

```
    <xs:element name="FtpPoolConfigurationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="FtpPoolConfigurationType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="pool" type="tns:ConnectionPoolType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ConnectionPoolType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="minSize" type="xs:int" />
            <xs:element name="maxSize" type="xs:int" minOccurs="0" />
            <xs:element name="evictionInterval" type="xs:int" minOccurs="0" />
            <xs:element name="minIdleTime" type="xs:int" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>
```

SiteRuleDocument

```
3164     <xs:element name="SiteRuleDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
3165     <xs:complexType name="SiteRuleType">
3166         <xs:sequence>
3167             <xs:element name="id" type="tns:SiteIdType" minOccurs="0" />
3168             <xs:element name="site" type="xs:string" minOccurs="0" />
3169             <xs:element name="metadata" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
3170             <xs:element name="shape" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
3171             <xs:element name="groups" type="xs:boolean" minOccurs="0" maxOccurs="1" />
3172             <xs:element name="access" type="xs:boolean" minOccurs="0" maxOccurs="1" />
3173             <xs:element name="files" type="xs:boolean" minOccurs="0" maxOccurs="1" />
3174             <xs:element name="targetStorage" type="xs:string" minOccurs="0" maxOccurs="1" />
3175             <xs:element name="localTargetStorage" type="xs:string" minOccurs="0" maxOccurs="1"/>
3176             <xs:element name="deleted" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
3177         </xs:sequence>
3178     </xs:complexType>
```

SiteRuleListDocument

```
3180     <xs:element name="SiteRuleListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
3181
3182     <xs:complexType name="SiteRuleListType">
3183         <xs:sequence>
3184             <xs:element name="siteRule" type="tns:SiteRuleType" minOccurs="0" maxOccurs="unbounded" /
3185         </xs:sequence>
3186     </xs:complexType>
```

StorageImportDocument

```
3189     <xs:element name="StorageImportDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
3190     <xs:complexType name="StorageImportType">
3191         <xs:sequence>
3192             <xs:element name="file" type="tns:FileImportDefType" minOccurs="0" maxOccurs="unbounded"
3193         </xs:sequence>
3194     </xs:complexType>
3195
3196     <xs:complexType name="FileImportDefType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
3197         <xs:sequence>
3198             <xs:element name="fileId" type="tns:SiteIdType"/>
3199             <xs:element name="path" type="xs:string" />
3200             <xs:element name="size" type="xs:long" />
3201             <xs:element name="component" type="tns:SiteIdType" minOccurs="0" maxOccurs="unbounded" />
3202         </xs:sequence>
3203     </xs:complexType>
```

VersionDocument

```
3206     <xs:element name="VersionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
3207
3208     <xs:complexType name="VersionType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
3209         <xs:sequence maxOccurs="1" minOccurs="1">
3210             <xs:element name="component" type="tns:CompType" minOccurs="0" maxOccurs="unbounded"/>
3211             <xs:element name="systemInfo" type="tns:SystemInfoType" minOccurs="0" maxOccurs="1"/>
3212             <xs:element name="licenseInfo" type="tns:LicenseType" minOccurs="0"/>
3213         </xs:sequence>
3214     </xs:complexType>
3215
3216     <xs:complexType name="SystemInfoType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
3217         <xs:sequence maxOccurs="1" minOccurs="0">
```

```
            <xs:element name="macaddress" type="xs:string" maxOccurs="unbounded" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="CompType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="siteId" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="version" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="LicenseType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="expiryDate" type="xs:string" minOccurs="0"/>
            <xs:element name="macaddresses" type="tns:SystemInfoType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="fileStatus" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="storageNumber" type="tns:LicenseNumberType" minOccurs="0"/>
            <xs:element name="userNumber" type="tns:LicenseNumberType" minOccurs="0"/>
            <xs:element name="itemNumber" type="tns:LicenseNumberType" minOccurs="0"/>
            <xs:element name="transcoderNumber" type="tns:LicenseNumberType" minOccurs="0"/>
            <xs:element name="endCustomerCompanyname" type="xs:string" minOccurs="0"/>
            <xs:element name="endCustomerCompanyContactEmail" type="xs:string" minOccurs="0"/>
            <xs:element name="resellerCompanyName" type="xs:string" minOccurs="0"/>
            <xs:element name="resellerCompanyContactEmail" type="xs:string" minOccurs="0"/>
            <xs:element name="licenseStatus" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="codecStatus" type="tns:CodecStatusType" minOccurs="0"/>
            <xs:element name="licenseErrorStatus" type="tns:LicenseErrorType" minOccurs="0"/>
            <xs:element name="licenseType" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

MasterLicenseDocument

```
    <xs:element name="MasterLicenseDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="MasterLicenseType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:complexContent>
            <xs:extension base="tns:LicenseType">
                <xs:sequence maxOccurs="1" minOccurs="1">
                    <xs:element name="masterIdentifier" type="xs:string" minOccurs="1" maxOccurs="1"/
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

SlaveLicenseDocument

```
    <xs:element name="SlaveLicenseDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="SlaveLicenseType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:complexContent>
            <xs:extension base="tns:LicenseType">
                <xs:sequence maxOccurs="1" minOccurs="1">
                    <xs:element name="masterIdentifier" type="xs:string" minOccurs="0" maxOccurs="1"/
                    <xs:element name="slaveIdentifier" type="xs:string" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="slaveInstances" type="xs:integer" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="validityTime" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="validityPeriod" type="xs:integer" minOccurs="0" maxOccurs="1"/>
                    <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
                </xs:sequence>
```

```
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

SlaveLicenseListDocument

```
    <xs:element name="SlaveLicenseListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="SlaveLicenseListType" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="slaveLicense" type="tns:SlaveLicenseType" maxOccurs="unbounded" minOccu
        </xs:sequence>
    </xs:complexType>
```

SlaveAuthDocument

```
    <xs:element name="SlaveAuthDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="
    <xs:complexType name="SlaveAuthType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="slaveId" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="slaveIp" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="slaveMac" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="requestSourceIp" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="slaveInstanceName" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="hostname" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="licenseStatus" type="tns:VersionType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

SlaveListDocument

```
    <xs:element name="SlaveListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="
    <xs:complexType name="SlaveListType">
        <xs:sequence>
            <xs:element name="slave" type="tns:SlaveType" minOccurs="0" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="SlaveType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="Id" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="slaveId" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="slaveIp" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="slaveMac" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="requestSourceIp" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="slaveInstanceName" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="hostname" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="lastUpdated" type="xs:dateTime" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

SlaveAuthInfoDocument

```
    <xs:element name="SlaveAuthInfoDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="SlaveAuthInfoType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="masterHost" type="xs:string" minOccurs="1" maxOccurs="unbounded"/>
            <xs:element name="slaveId" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

```
3324
3325      <xs:complexType name="LicenseNumberType">
3326         <xs:sequence minOccurs="0" maxOccurs="1">
3327             <xs:element name="allowed" type="xs:string" minOccurs="0" maxOccurs="1"/>
3328             <xs:element name="current" type="xs:string" minOccurs="0" maxOccurs="1"/>
3329         </xs:sequence>
3330     </xs:complexType>
3331
3332     <xs:complexType name="CodecStatusType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
3333         <xs:sequence>
3334             <xs:element name="codec" type="tns:CodecType" minOccurs="0" maxOccurs="unbounded"/>
3335             <xs:element name="codecExtraTags" type="xs:string" minOccurs="0" maxOccurs="1" />
3336         </xs:sequence>
3337     </xs:complexType>
3338
3339     <xs:complexType name="CodecType">
3340         <xs:sequence>
3341             <xs:element name="encode" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
3342             <xs:element name="decode" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
3343         </xs:sequence>
3344         <xs:attribute name="name" type="xs:string"/>
3345     </xs:complexType>
3346
3347     <xs:complexType name="EncodeDecodeType">
3348         <xs:sequence maxOccurs="1" minOccurs="0">
3349             <xs:element name="encode"  type="xs:boolean" minOccurs="0" maxOccurs="1"/>
3350             <xs:element name="decode"  type="xs:boolean" minOccurs="0" maxOccurs="1"/>
3351         </xs:sequence>
3352     </xs:complexType>
3353
3354
3355     <xs:complexType name="LicenseErrorType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
3356         <xs:sequence maxOccurs="1" minOccurs="1">
3357             <xs:element name="licenseError" type="xs:string" minOccurs="0"/>
3358         </xs:sequence>
3359     </xs:complexType>
3360
3361     <!-- START PROJECT TYPES -->
```

ProjectFileDocument

```
3363     <xs:element name="ProjectFileDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
3364     <xs:complexType name="ProjectFileType">
3365         <xs:sequence>
3366             <xs:element name="location" type="xs:anyURI"/>
3367             <xs:element name="type" type="xs:string" minOccurs="0"/>
3368             <xs:element name="asset" minOccurs="0" maxOccurs="unbounded">
3369                 <xs:complexType>
3370                     <xs:sequence>
3371                         <xs:element name="id" type="xs:string"/>
3372                         <xs:element name="name" type="xs:string"/>
3373                         <xs:element name="type" type="xs:string"/>
3374                         <xs:element name="status" type="xs:string" minOccurs="0"/>
3375                         <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
3376                             <xs:complexType>
3377                                 <xs:attribute name="id" type="tns:SiteIdType"/>
3378                                 <xs:attribute name="shape" type="tns:SiteIdType" use="optional"/>
3379                                 <xs:attribute name="match" type="xs:string"/>
3380                                 <xs:attribute name="permission" type="xs:string"/>
```

```
                            </xs:complexType>
                        </xs:element>
                        <xs:element name="file" type="tns:FileReferenceType" minOccurs="0" maxOccurs=
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="FileReferenceType">
        <xs:sequence>
            <!-- Either an id or path will be available, depending on the NLE -->
            <xs:choice>
                <xs:element name="id" type="xs:string"/>
                <xs:element name="path"  type="xs:anyURI"/>
            </xs:choice>
            <xs:element name="hash"  type="xs:string" minOccurs="0"/>
            <xs:element name="status" type="xs:string" minOccurs="0"/>
            <xs:element name="file" type="tns:FileType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

ExportRequestDocument

```
    <xs:element name="ExportRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="ExportRequestType">
        <xs:sequence>
            <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="format" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="content" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="storage" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="path" type="xs:anyURI" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="path" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="sequence" type="tns:SequenceType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ExportResponseDocument

```
    <xs:element name="ExportResponseDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="ExportResponseType">
        <xs:sequence>
            <xs:element name="problem" type="tns:ExportProblemType" minOccurs="0" maxOccurs="unbounde
            <xs:element name="mappings" type="tns:EssenceMappingsType" minOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ExportStatusDocument

```
    <xs:element name="ExportStatusDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="ExportStatusType">
        <xs:sequence>
            <xs:element name="problem" type="tns:ExportProblemType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ExportProblemType">
        <xs:sequence>
            <xs:element name="type" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:element name="message" type="xs:string"/>
            <xs:element name="asset" type="xs:string" minOccurs="0"/>
            <xs:element name="parameter" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbound
        </xs:sequence>
    </xs:complexType>
```

EssenceMappingsDocument

```
    <xs:element name="EssenceMappingsDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="EssenceMappingsType">
        <xs:sequence>
            <xs:element name="asset" type="tns:AssetMappingType" minOccurs="0" maxOccurs="unbounded"/
            <xs:element name="file" type="tns:FileMappingType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="storage" type="tns:StorageMappingType" minOccurs="0" maxOccurs="unbound
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AssetMappingType">
        <xs:attribute name="id" type="xs:string" use="required"/>
        <xs:attribute name="item" type="tns:SiteIdType" use="required"/>
        <xs:attribute name="shape" type="tns:SiteIdType" use="optional"/>
    </xs:complexType>

    <xs:complexType name="StorageMappingType">
        <xs:attribute name="path" type="xs:string" use="required"/>
        <xs:attribute name="id" type="tns:SiteIdType" use="required"/>
    </xs:complexType>

    <xs:complexType name="FileMappingType">
        <!-- Either an id or path should be provided, depending on the NLE -->
        <xs:attribute name="id" type="xs:string" use="optional"/>
        <xs:attribute name="path"  type="xs:anyURI" use="optional"/>
        <xs:attribute name="hash"  type="xs:string" use="optional"/>
        <xs:attribute name="size" type="xs:long" use="optional"/>
        <xs:attribute name="timestamp" type="xs:dateTime" use="optional"/>
    </xs:complexType>

    <!-- END PROJECT TYPES -->
```

ReindexRequestDocument

```
    <xs:element name="ReindexRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="ReindexRequestType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="index" type="xs:string" />
            <xs:element name="priority" type="xs:int" />
            <xs:element name="status" type="xs:string"/>
            <xs:element name="start" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
```

```
            <xs:element name="finish" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="indexesDone" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="indexesTotal" type="xs:integer" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

PlaceholderImportRequestDocument

```
    <xs:element name="PlaceholderImportRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="PlaceholderImportRequestType" xmlns:tns="http://xml.vidispine.com/schema/vi
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="container" type="xs:anyURI" minOccurs="0" maxOccurs="1"/>
            <xs:element name="video" type="xs:anyURI" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="audio" type="xs:anyURI" minOccurs="0" maxOccurs="unbounded"/>
            <!--<xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>-->
        </xs:sequence>
    </xs:complexType>
```

ConformRequestDocument

```
    <xs:element name="ConformRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="ConformRequestType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="conform" type="tns:ConformType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

SequenceRenderRequestDocument

```
    <xs:element name="SequenceRenderRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidis
    <xs:complexType name="SequenceRenderRequestType" xmlns:tns="http://xml.vidispine.com/schema/vidis
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="sequence" type="tns:SequenceType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="metadata" type="tns:MetadataType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

VidispineServiceListDocument

```
    <xs:element name="VidispineServiceListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidisp
    <xs:complexType name="VidispineServiceListType">
        <xs:sequence>
            <xs:element name="service" type="tns:VidispineServiceType" minOccurs="0" maxOccurs="unbou
        </xs:sequence>
    </xs:complexType>
```

VidispineServiceDocument

```
    <xs:element name="VidispineServiceDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="VidispineServiceType" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="class" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="arguments" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="isEnabled" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="isRunning" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:element name="exception" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="exceptionTimestamp" type="xs:string" minOccurs="0" maxOccurs="1"/>
```

```
            <xs:element name="thread" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="threadStatus" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="load5" type="xs:double" minOccurs="0" maxOccurs="1"/>
            <xs:element name="load60" type="xs:double" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ExportLocationListDocument

```
    <xs:element name="ExportLocationListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="ExportLocationListType" xmlns:tns="http://xml.vidispine.com/schema/vidispi
        <xs:sequence>
            <xs:element name="exportLocation" type="tns:ExportLocationType" minOccurs="0" maxOccurs="
        </xs:sequence>
    </xs:complexType>
```

ExportLocationDocument

```
    <xs:element name="ExportLocationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="ExportLocationType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" />
            <xs:element name="uri" type="xs:string" />
            <xs:element name="projection" type="xs:string" minOccurs="0" />
            <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="script" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>


    <!-- SELF TEST DOCUMENTS -->

        <xs:element name="SelfTestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
        <xs:complexType name="SelfTestType">
                <xs:sequence>
                        <xs:element name="message" type="xs:string" minOccurs="0" maxOccurs="unbounde
                        <xs:element name="test" type="tns:SelfTestType" minOccurs="0" maxOccurs="unbo
                </xs:sequence>
                <xs:attribute name="name" type="xs:string" use="required"/>
                <xs:attribute name="description" type="xs:string" use="optional"/>
                <xs:attribute name="status" type="xs:string" use="required"/>
                <xs:attribute name="took" type="xs:string" use="optional"/>
        </xs:complexType>

    <xs:complexType name="LoudnessMixType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" />
            <xs:element name="weightdB" type="xs:double" minOccurs="0" />
            <xs:element name="sourceStream" type="xs:int" minOccurs="0" />
            <xs:element name="sourceChannel" type="xs:int" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>
```

LoudnessDocument

```
    <xs:element name="LoudnessDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="LoudnessType" xmlns:tns="http://xml.vidispine.com/schema/vidispine">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0" />
```

```
            <xs:element name="shape" type="tns:SiteIdType" minOccurs="0" />
            <xs:element name="shapeTag" type="xs:string" minOccurs="0" />
            <xs:element name="mix" type="tns:LoudnessMixType" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="start" type="xs:string" minOccurs="0" />
            <xs:element name="end" type="xs:string" minOccurs="0" />
            <xs:element name="startLoudness" type="xs:string" minOccurs="0" />
            <xs:element name="endLoudness" type="xs:string" minOccurs="0" />
            <xs:element name="startRange" type="xs:string" minOccurs="0" />
            <xs:element name="endRange" type="xs:string" minOccurs="0" />
            <xs:element name="loudnessLU" type="xs:double" minOccurs="0" />
            <xs:element name="loudnessRangeLU" type="xs:double" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>
```

AutoProjectionRuleDocument

```
    <xs:element name="AutoProjectionRuleDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi

    <xs:complexType name="AutoProjectionRuleType">
        <xs:sequence>
            <xs:element name="step" type="tns:AutoProjectionStepType" minOccurs="0" maxOccurs="unbou
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="inputFilters" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="inputFilter" minOccurs="0" maxOccurs="unbounded" type="tns
                        <xs:element name="bulkyMetadataKeysRegex" minOccurs="0" maxOccurs="1" type="x
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="triggers" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="trigger" minOccurs="0" maxOccurs="unbounded" type="tns:Auto
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:simpleType name="AutoProjectionTriggerType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="shapeMetadata"/>
            <xs:enumeration value="itemMetadata"/>
            <xs:enumeration value="bulkyMetadata"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="AutoProjectionInputFilterType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="oldMetadata"/>
            <xs:enumeration value="shapeDocument"/>
        </xs:restriction>
    </xs:simpleType>

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

```
            <xs:element name="order" type="xs:integer" default="1" minOccurs="0" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:sequence>
            <xs:choice>
                <xs:element name="script" type="xs:string" minOccurs="0" maxOccurs="1"/>
                <xs:element name="xslt" type="xs:string" minOccurs="0" maxOccurs="1"/>
            </xs:choice>
        </xs:sequence>
        </xs:sequence>
    </xs:complexType>
```

MetadataWrapperDocument

```
    <xs:element name="MetadataWrapperDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="MetadataWrapperType">
        <xs:sequence>
            <xs:element name="metadata" type="tns:MetadataType" minOccurs="1" maxOccurs="1"/>
            <xs:element name="oldMetadata" type="tns:MetadataListType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="shape" type="tns:ShapeType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="shapeMetadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1
            <xs:element name="bulkyMetadata" type="tns:BulkyMetadataType" minOccurs="1" maxOccurs="1"
            <xs:element name="oldBulkyMetadata" type="tns:BulkyMetadataType" minOccurs="0" maxOccurs=
            <xs:element name="targetId" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

ErrorLogListDocument

```
    <xs:element name="ErrorLogListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="ErrorLogListType">
      <xs:sequence>
        <xs:element name="errorLog" minOccurs="0" maxOccurs="unbounded" type="tns:ErrorLogType"/>
      </xs:sequence>
    </xs:complexType>
```

ErrorLogDocument

```
    <xs:element name="ErrorLogDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="ErrorLogType">
        <xs:sequence>
            <xs:element name="id" type="xs:long" minOccurs="0" maxOccurs="1"/>
            <xs:element name="timestamp" type="xs:dateTime" minOccurs="0" maxOccurs="1"/>
            <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="type" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="entityType" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="entityId" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

vsXSLTVersion

```
    <xs:element name="vsXSLTVersion" type="xs:integer"/>
```

ExportInformationDocument

```
    <xs:element name="ExportInformationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="ExportInformationType">
        <xs:sequence>
            <xs:element name="metadataList" type="tns:MetadataListType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="job" type="tns:JobType" minOccurs="0" maxOccurs="1"/>
```

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

MetadataSchemaMigrationListDocument

```
    <xs:element name="MetadataSchemaMigrationListDocument" xmlns:tns="http://xml.vidispine.com/schema
    <xs:complexType name="MetadataSchemaMigrationListType">
        <xs:sequence>
            <xs:element name="migration" type="tns:MetadataSchemaMigrationType" minOccurs="0" maxOccu
        </xs:sequence>
    </xs:complexType>
```

MetadataSchemaMigrationDocument

```
    <xs:element name="MetadataSchemaMigrationDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="MetadataSchemaMigrationType">
        <xs:sequence>
            <xs:element name="done" type="xs:boolean" minOccurs="0"/>
            <xs:element name="migrationsLeft" type="xs:integer" minOccurs="0"/>
            <xs:element name="move" type="tns:MetadataSchemaMoveOperationType" minOccurs="0" maxOccur
            <xs:element name="rename" type="tns:MetadataSchemaRenameOperationType" minOccurs="0" max
            <xs:element name="delete" type="tns:MetadataSchemaDeleteOperationType" minOccurs="0" max
        </xs:sequence>
        <xs:attribute name="id" type="xs:integer"/>
    </xs:complexType>

    <xs:complexType name="MetadataSchemaMoveOperationType">
        <xs:sequence>
            <xs:element name="from" type="tns:MetadataSchemaHierarchyType" minOccurs="1" maxOccurs="1
            <xs:element name="to" type="tns:MetadataSchemaHierarchyType" minOccurs="1" maxOccurs="1"/
        </xs:sequence>
        <xs:attribute name="type" type="xs:string"/>
    </xs:complexType>

    <xs:complexType name="MetadataSchemaDeleteOperationType">
        <xs:sequence>
            <xs:element name="target" type="tns:MetadataSchemaHierarchyType" minOccurs="1" maxOccurs=
        </xs:sequence>
        <xs:attribute name="type" type="xs:string"/>
    </xs:complexType>

    <xs:complexType name="MetadataSchemaRenameOperationType">
        <xs:sequence>
            <xs:element name="from" type="tns:MetadataSchemaHierarchyType" minOccurs="1" maxOccurs="1
            <xs:element name="to" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MetadataSchemaHierarchyType">
        <xs:choice>
            <xs:element name="group" type="tns:MetadataFieldGroupType"/>
            <xs:element name="field" type="tns:MetadataFieldType"/>
        </xs:choice>
    </xs:complexType>
        <xs:element name="EssenceVersionListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidi
        <xs:complexType name="EssenceVersionListType">
                <xs:sequence>
                    <xs:element name="version" minOccurs="0" maxOccurs="unbounded">
                            <xs:complexType>
```

```
                                        <xs:sequence>
                                                <xs:element name="id" type="xs:int" minOccurs="1" maxOccu
                                                <xs:element name="uri" type="xs:string" minOccurs="1" max
                                                <xs:element name="created" type="xs:dateTime" minOccurs="
                                        </xs:sequence>
                                </xs:complexType>
                        </xs:element>
                </xs:sequence>
        </xs:complexType>

        <xs:element name="EssenceVersionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
        <xs:complexType name="EssenceVersionType">
                <xs:sequence>
                        <xs:element name="created" type="xs:dateTime" minOccurs="0" maxOccurs="1" />
                        <xs:element name="shape" type="tns:ShapeType" minOccurs="0" maxOccurs="unbou
                </xs:sequence>
        </xs:complexType>

  <xs:element name="DocumentListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
  <xs:complexType name="DocumentListType">
    <xs:sequence>
        <xs:element name="document" minOccurs="0" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1" />
              <xs:element name="uri" type="xs:string" minOccurs="1" maxOccurs="1" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
    </xs:sequence>
  </xs:complexType>
```

VXAJobListDocument

```
    <xs:element name="VXAJobListDocument" type="tns:VXAJobListType"/>
    <xs:complexType name="VXAJobListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer"/>
            <xs:element name="job" type="tns:VXAJobType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
```

VXAJobDocument

```
    <xs:element name="VXAJobDocument" type="tns:VXAJobType"/>
    <xs:complexType name="VXAJobType">
        <xs:sequence>
            <xs:element name="vxaId" type="xs:string"/>
            <xs:element name="vxaName" type="xs:string"/>
            <xs:element name="user" type="xs:string"/>
            <xs:element name="jobId" type="xs:long"/>
            <xs:element name="uuid" type="xs:string"/>
            <xs:element name="type" type="xs:string"/>
            <xs:element name="instance" type="xs:string"/>
            <xs:element name="status" type="xs:string"/>
            <xs:element name="errorMessage" type="xs:string"/>
            <xs:element name="progress" type="xs:double"/>
            <xs:element name="itemId" type="xs:string"/>
            <xs:element name="filename" type="xs:string"/>
```

```
            <xs:element name="startTime" type="xs:dateTime"/>
            <xs:element name="plugin" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:simpleContent>
                        <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string"/>
                        </xs:extension>
                    </xs:simpleContent>
                </xs:complexType>
            </xs:element>
            <xs:element name="jobConfiguration" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="configuration" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:schema>
```

16.32.2 common.xsd

Common elements to API and Transcoder.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
    targetNamespace="http://xml.vidispine.com/schema/vidispine"
    elementFormDefault="qualified"
    xmlns:jaxb="http://java.sun.com/xml/ns/jaxb"
    jaxb:version="1.0"
    xmlns:xjc="http://java.sun.com/xml/ns/jaxb/xjc"
    jaxb:extensionBindingPrefixes="xjc" xmlns:tns="http://xml.vidispine.com/schema/vidispine">

    <xs:simpleType name="SiteIdType">
        <xs:restriction base="xs:string">
            <xs:pattern value="([_A-Za-z]+-)?([A-Za-z_][A-Za-z0-9_]*-|(([A-Za-z_][A-Za-z0-9_]*)?\*))
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="UUIDType">
        <xs:restriction base="xs:string">
            <xs:pattern value="[A-Fa-f0-9]{8}-[A-Fa-f0-9]{4}-[A-Fa-f0-9]{4}-[A-Fa-f0-9]{4}-[A-Fa-f0-9
        </xs:restriction>
    </xs:simpleType>
```

URIListDocument

```
    <xs:element name="URIListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="URIListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:integer" minOccurs="0" maxOccurs="1"/>
            <xs:element name="uri" type="xs:anyURI" maxOccurs="unbounded" minOccurs="0"></xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MetadataSchemaElementType">
        <xs:attributeGroup ref="tns:MetadataSchemaAttributes"/>
        <xs:attribute name="reference" type="xs:boolean" use="optional"/>
    </xs:complexType>

    <xs:attributeGroup name="MetadataSchemaAttributes">
```

```
        <!-- Minimum number of elements -->
        <xs:attribute name="min" type="xs:int" use="required"/>
        <!-- Maximum number of elements. A negative number is regarded as infinity. -->
        <xs:attribute name="max" type="xs:int" use="required"/>
        <xs:attribute name="name" type="xs:string" use="optional"/>
    </xs:attributeGroup>
```

FileDocument

```
    <xs:element name="FileDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns:F
    <xs:complexType name="FileType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0"/>
            <xs:element name="path" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="uri"  type="xs:anyURI" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="state" type="xs:string"/>
            <xs:element name="size" type="xs:long" minOccurs="0"/>
            <xs:element name="hash" type="xs:string" minOccurs="0"/>
            <xs:element name="timestamp" type="xs:dateTime" minOccurs="0"/>
            <xs:element name="refreshFlag" type="xs:int" minOccurs="0"/>
            <xs:element name="storage" type="tns:SiteIdType" minOccurs="0"/>
            <xs:element name="storageDefinition" type="tns:StorageType" minOccurs="0"/>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="shape" minOccurs="0" maxOccurs="unbounded">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccu
                                    <xs:element name="component" minOccurs="0" maxOccurs="unbounded">
                                        <xs:complexType>
                                            <xs:sequence>
                                                <xs:element name="id" type="tns:SiteIdType" minOccurs
                                            </xs:sequence>
                                        </xs:complexType>
                                    </xs:element>
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="metadata" type="tns:SimpleMetadataType" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
    </xs:complexType>

    <!-- Stuff for Shape starts here -->
    <xs:complexType name="ResolutionType">
        <xs:sequence>
            <xs:element name="width" type="xs:unsignedInt"/>
            <xs:element name="height" type="xs:unsignedInt"/>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="RationalType">
        <xs:sequence>
            <xs:element name="numerator" type="xs:int"/>
            <xs:element name="denominator" type="xs:int"/>
```

```
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="TimeBaseType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:RationalTyp
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="FrameRateType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:RationalTyp
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="TimeCodeType">
        <xs:sequence>
            <xs:element name="samples" type="xs:long"/>
            <xs:element name="timeBase" type="tns:TimeBaseType"/>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="TimeIntervalType">
        <xs:sequence>
            <xs:element name="start" type="tns:TimeCodeType" minOccurs="0"/>
            <xs:element name="end"   type="tns:TimeCodeType" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="AspectRatioType">
        <xs:sequence>
            <xs:element name="horizontal" type="xs:unsignedInt"/>
            <xs:element name="vertical" type="xs:unsignedInt"/>
        </xs:sequence>
    </xs:complexType>
```

ComponentListDocument

```
    <xs:element name="ComponentListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty

    <xs:complexType name = "ComponentListType">
        <xs:sequence>
            <xs:element name="component" minOccurs="0" maxOccurs="unbounded" type="tns:ComponentType"
        </xs:sequence>
    </xs:complexType>
```

ComponentDocument

```
    <xs:element name="ComponentDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="
    <xs:complexType name="ComponentType">
        <xs:sequence>
            <xs:element name="file" type="tns:FileType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0"/>

            <!-- Flat metadata, meaning a simple list of key-value pairs.
                 This has been put in ComponentType since both ContainerComponent and the MediaCompon
                 have metadata. In other words, files can have both global and stream-specific metada
            -->
            <xs:element name="metadata" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
    </xs:complexType>
```

BinaryComponentDocument

```
    <xs:element name="BinaryComponentDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="BinaryComponentType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComponentTy
                <xs:sequence>
                    <xs:element name="format" type="xs:string" minOccurs="0"/>      <!-- Example: id
                    <xs:element name="encoding" type="xs:string" minOccurs="0"/>    <!-- Example: bas
                    <xs:element name="offset" type="xs:long" minOccurs="0"/>
                    <xs:element name="length" type="xs:long" minOccurs="0"/>
                    <xs:element name="mediaInfo" type="tns:BaseMediaInfoType" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

ContainerComponentDocument

```
    <xs:element name="ContainerComponentDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="ContainerComponentType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComponentTy
                <xs:sequence>
                    <xs:element name="duration" type="tns:TimeCodeType" minOccurs="0"/>
                    <xs:element name="format" type="xs:string" minOccurs="0"/>

                    <!-- Sub format.
                         This field was created for transcoder ticket #186.
                         Its exact function isn't set in stone yet.
                         Possible values:

                         * Unset
                         * "mxf_d10"
                    -->
                    <xs:element name="subFormat" type="xs:string" minOccurs="0"/>

                    <xs:element name="firstSMPTETimecode" type="xs:string" minOccurs="0"/>

                    <!-- Corresponds to StartTimecode in TimecodeComponent in MXF -->
                    <xs:element name="startTimecode" type="xs:long" minOccurs="0"/>

                    <!-- First timestamp in container -->
                    <xs:element name="startTimestamp" type="tns:TimeCodeType" minOccurs="0"/>

                    <!-- Corresponds to RoundedTimeBase in TimecodeComponent in MXF -->
                    <xs:element name="roundedTimeBase" type="xs:int" minOccurs="0"/>

                    <!-- Corresponds to DropFrame in TimecodeComponent in MXF -->
                    <xs:element name="dropFrame" type="xs:boolean" minOccurs="0"/>
                    <xs:element name="timeCodeTimeBase" type="tns:TimeBaseType" minOccurs="0" />
                    <xs:element name="mediaInfo" type="tns:BaseMediaInfoType" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="EDLType">
        <xs:sequence>
            <!-- MOV specifies length in terms of the mvhd time scale, which is simply an integer.
```

```
                In other words, NTSC files have a time scale of 2997, not 30000/1001.
                The transcoder fixes up timestamps given from mov.c, so 1700@2997 becomes 17@NTSC ar
            -->
            <xs:element name="timeScale" type="tns:TimeBaseType"/>
            <!-- Explicit time base for EDLEntryType.start values.
                The purpose of this field is to reduce confusion where exactly the time base for the
                Using this field also removes the need for running a shape deduction step in order t
                In other words: not using this field results in hairy behavior.
                See T#208.
            -->
            <xs:element name="timeBase" type="tns:TimeBaseType" minOccurs="0"/>
            <xs:element name="entry" type="tns:EDLEntryType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="EDLEntryType">
        <xs:attribute name="start" type="xs:long" use="required"/>      <!-- In MediaComponentType/ti
        <xs:attribute name="length" type="xs:long" use="required"/>     <!-- In EDLType/timeScale uni
        <xs:attribute name="mediaRate" type="xs:int" use="required"/>   <!-- 16.16 fixed-point, meani
    </xs:complexType>

    <xs:complexType name="MediaComponentType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComponentTy
                <xs:sequence>
                    <xs:element name="codec" type="xs:string" minOccurs="0"/>
                    <xs:element name="timeBase" type="tns:TimeBaseType" minOccurs="0"/>
                    <xs:element name="itemTrack" type="xs:string" minOccurs="0"/>
                    <xs:element name="essenceStreamId" type="xs:unsignedShort" minOccurs="0"/>
                    <xs:element name="interval" type="tns:TimeIntervalType" minOccurs="0"/>
                    <xs:element name="bitrate" type="xs:unsignedInt" minOccurs="0"/>
                    <xs:element name="numberOfPackets" type="xs:long" minOccurs="0"/>
                    <xs:element name="extradata" type="xs:hexBinary" minOccurs="0"/>
                    <xs:element name="pid" type="xs:int" minOccurs="0"/>
                    <xs:element name="duration" type="tns:TimeCodeType" minOccurs="0"/>         <!--
                    <xs:element name="profile" type="xs:int" minOccurs="0"/>                    <!--
                    <xs:element name="level" type="xs:int" minOccurs="0"/>                      <!--
                    <xs:element name="edl" type="tns:EDLType" minOccurs="0"/>                   <!--
                    <xs:element name="startTimestamp" type="tns:TimeCodeType" minOccurs="0"/>    <!--
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <!-- Returns various fields parsed by libmediainfo -->
    <xs:complexType name="BaseMediaInfoType">
        <xs:sequence>
            <xs:element name="Bit_rate_mode" type="xs:string" minOccurs="0"/>               <!-- "Bi
            <xs:element name="Source" type="xs:string" minOccurs="0"/>                      <!-- "So
            <xs:element name="property" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AudioMediaInfoType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:BaseMediaIn
                <xs:sequence/>
            </xs:extension>
```

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

    <xs:complexType name="VideoMediaInfoType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:BaseMediaIn
                <xs:sequence>
                    <xs:element name="Format_Settings_GOP" type="xs:string" minOccurs="0"/>
                    <xs:element name="intra_dc_precision" type="xs:int" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

AudioComponentDocument

```
    <xs:element name="AudioComponentDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="AudioComponentType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:MediaCompon
                <xs:sequence>
                    <xs:element name="channelCount" type="xs:unsignedShort"/>
                    <xs:element name="channelLayout" type="xs:long" minOccurs="0"/>
                    <xs:element name="sampleFormat" type="xs:string" minOccurs="0"/>
                    <xs:element name="frameSize" type="xs:unsignedInt" minOccurs="0"/>
                    <xs:element name="blockAlign" type="xs:unsignedInt" minOccurs="0"/>

                    <xs:element name="mediaInfo" type="tns:AudioMediaInfoType" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

VideoComponentDocument

```
    <xs:element name="VideoComponentDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="VideoComponentType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:MediaCompon
                <xs:sequence>
                    <xs:element name="videoStandard" minOccurs="0" maxOccurs="1">
                        <xs:complexType>
                            <xs:simpleContent>
                                <xs:extension base="xs:string">
                                    <xs:attribute name="type" type="xs:string" use="required"/>
                                </xs:extension>
                            </xs:simpleContent>
                        </xs:complexType>
                    </xs:element>
                    <xs:element name="resolution" type="tns:ResolutionType" minOccurs="0"/>
                    <xs:element name="pixelFormat" type="xs:string" minOccurs="0"/>
                    <xs:element name="maxBFrames" type="xs:unsignedShort" minOccurs="0"/>
                    <xs:element name="pixelAspectRatio" type="tns:AspectRatioType" minOccurs="0"/>

                    <!-- Field order
                            "progressive" for progressive video
                            "F1" for interlaced in "top field first" order
                            "F2" for interlaced in "bottom field first" order
```

```
                        Note that the meaning of F1 and F2 are opposite to S314m where Field 1 is t
                        This was not known when this element was introduced, and changing this is l
                    -->
                    <xs:element name="fieldOrder" type="xs:string" minOccurs="0"/>
                    <xs:element name="codecTimeBase" type="tns:TimeBaseType" minOccurs="0"/>
                    <xs:element name="averageFrameRate" type="tns:TimeBaseType" minOccurs="0"/>
                    <xs:element name="realBaseFrameRate" type="tns:TimeBaseType" minOccurs="0"/>

                    <!-- MXF-ish display rectangle.
                        This means values straight from CDCIDescriptor for MXF,
                        but scaled down by SAR for clap in MOV.
                        In other words, "to display" space, not "displayed" (aka raster) space.
                    -->
                    <xs:element name="displayWidth" type="tns:RationalType" minOccurs="0"/>
                    <xs:element name="displayHeight" type="tns:RationalType" minOccurs="0"/>
                    <xs:element name="displayXOffset" type="tns:RationalType" minOccurs="0"/>
                    <xs:element name="displayYOffset" type="tns:RationalType" minOccurs="0"/>

                    <!-- DAR = displayWidth/displayHeight * containerSAR -->
                    <xs:element name="containerSAR" type="tns:AspectRatioType" minOccurs="0"/>

                    <xs:element name="colr_primaries" type="xs:int" minOccurs="0"/>
                    <xs:element name="colr_transfer_function" type="xs:int" minOccurs="0"/>
                    <xs:element name="colr_matrix" type="xs:int" minOccurs="0"/>
                    <xs:element name="max_packet_size" type="xs:int" minOccurs="0"/>

                    <!-- Codec-level time code information - typically set from the 25-bit value in t
                        Use averageFrameRate in lieu of RoundedTimeBase.
                    -->
                    <xs:element name="startTimecode" type="xs:long" minOccurs="0"/>
                    <xs:element name="dropFrame" type="xs:boolean" minOccurs="0"/>

                    <!-- needed to get H.264 decoding working properly in some cases -->
                    <xs:element name="ticks_per_frame" type="xs:int" minOccurs="0"/>

                    <!-- Added for T#135 -->
                    <!-- Bit depth (default 8) -->
                    <xs:element name="bitDepth" type="xs:int" minOccurs="0"/>
                    <xs:element name="bitsPerPixel" type="xs:int" minOccurs="0"/>

                    <!-- Color primaries in string form (c.f.  colr_primaries above -->
                    <xs:element name="colorPrimaries" type="xs:string" minOccurs="0"/>

                    <xs:element name="mediaInfo" type="tns:VideoMediaInfoType" minOccurs="0"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

ShapeDocument

```
    <xs:element name="ShapeDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns
    <xs:complexType name="ShapeType">
        <xs:sequence>
            <xs:element name="id" type="tns:SiteIdType" minOccurs="0"/>
            <xs:element name="created" type="xs:dateTime" minOccurs="0" maxOccurs="1" />
            <xs:element name="essenceVersion" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="tag" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
```

```
            <xs:element name="mimeType" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="uuid" type="tns:UUIDType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="binaryComponent" type="tns:BinaryComponentType" minOccurs="0" maxOccurs
            <!-- container is optional since we might create a ShapeType which merely helps point to
            <xs:element name="containerComponent" type="tns:ContainerComponentType" minOccurs="0"/>
            <xs:element name="audioComponent" type="tns:AudioComponentType" minOccurs="0" maxOccurs="
            <xs:element name="videoComponent" type="tns:VideoComponentType" minOccurs="0" maxOccurs="
            <xs:element name="metadata" minOccurs="0" maxOccurs="1" type="tns:SimpleMetadataType"/>
            <xs:element name="item" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="tns:SiteIdType" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <!-- Types for bulky metadata -->
```

BulkyMetadataDocument

```
    <xs:element name="BulkyMetadataDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="BulkyMetadataType">
        <xs:sequence>
            <xs:element name="field" type="tns:BulkyMetadataPairType" minOccurs="0" maxOccurs="unbour
        </xs:sequence>
        <xs:attribute name="id" type="tns:SiteIdType" use="optional"/>
    </xs:complexType>
    <xs:complexType name="BulkyMetadataPairType">
        <xs:sequence>
            <xs:element name="key" type="xs:string" minOccurs="1" maxOccurs="1"/>
            <xs:choice>
                <xs:element name="value" type="xs:string" minOccurs="1" maxOccurs="1"/>
                <xs:element name="maps" type="tns:BulkyMapListType" minOccurs="1" maxOccurs="1"/>
            </xs:choice>
        </xs:sequence>
        <xs:attribute name="start" type="xs:string" use="optional"/>
        <xs:attribute name="end" type="xs:string" use="optional"/>
        <xs:attribute name="stream" type="xs:int" use="optional"/>
        <xs:attribute name="channel" type="xs:int" use="optional"/>
    </xs:complexType>
```

BulkyMapListDocument

```
    <xs:element name="BulkyMapListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" typ
    <xs:complexType name="BulkyMapListType">
        <xs:sequence>
            <xs:element name="map" type="tns:BulkyMapType" minOccurs="1" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="BulkyMapType">
        <xs:sequence>
            <xs:element name="entry" type="tns:BulkyMapEntryType" minOccurs="1" maxOccurs="unbounded"
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="BulkyMapEntryType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
```

```
                <xs:attribute name="key" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>



    <!-- Types for requesting merging according to a timeline (aka pasting together resources) -->
```

TimelineJobRequestDocument

```
    <xs:element name="TimelineJobRequestDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispi
    <xs:complexType name="TimelineJobRequestType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="outputUri" type="xs:anyURI"/>
            <xs:element name="containerFormat" type="xs:string"/>
            <xs:element name="stream" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="input" maxOccurs="unbounded">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element name="uri" type="xs:anyURI"/>
                                    <xs:element name="stream" type="xs:unsignedShort"/>
                                    <xs:element name="interval" type="tns:TimeIntervalType"/>
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:sequence>
                </xs:complexType>

            </xs:element>

            <!--xs:choice>
                <xs:element name="simpleTimeline" type="tns:SimpleTimelineType"/>
                <xs:element name="timeline" type="tns:TimelineType"/>
            </xs:choice>
            <xs:element name="thumbnailResourceUri" type="xs:anyURI" minOccurs="0" maxOccurs="unboun
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="ComplexJobOTIFType">
        <xs:sequence>
            <xs:element name="trackerPlugin" type="xs:string" minOccurs="1"/>
            <xs:element name="versionMajor" type="xs:int" minOccurs="1"/>
            <xs:element name="versionMinor" type="xs:int" minOccurs="1"/>
            <xs:element name="versionPatch" type="xs:int" minOccurs="1"/>
            <xs:element name="bulkyMetadataURI" type="xs:anyURI" minOccurs="0" maxOccurs="1" />
            <xs:element name="configuration" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unb
            <xs:element name="resource" type="tns:NameURIPairType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>

    <!-- Types for requesting a more complex "map this to that" type of transcode job -->
```

```
476     <xs:complexType name="ComplexJobOutputType">
477         <xs:sequence>
478             <!-- Use multiple id element to multiplex the encoded data to multiple
479                  files without having to encode more than once
480             -->
481             <xs:element name="id" type="xs:int" minOccurs="0" maxOccurs="unbounded"/>
482             <xs:element name="start" type="tns:TimeCodeType" minOccurs="0"/>
483             <xs:element name="codec" type="xs:string" minOccurs="0"/>
484 
485             <!-- FOURCC. Corresponds to codec_tag in libav* terms,
486                  hence the name. Typically a four-character ASCII string.
487                  May need to be fairly arbitrary constants though, so
488                  an xs:string is insufficient. Hence an int is used.
489 
490                  An earlier way of setting the codecTag for four-character
491                  strings was to set the first character as the LSB and so on.
492                  In other words:
493                   "ai55" -> 'a' + ('i' << 8) + ('5' << 16) + ('5' << 24)
494                  However, this use has been deprecated.
495 
496                  Instead, just set the codecTagString to the character string, as in
497                  <codecTagString>ai55</codecTagString>
498             -->
499             <xs:element name="codecTag" type="xs:unsignedInt" minOccurs="0"/>
500             <xs:element name="codecTagString" type="xs:string" minOccurs="0"/>
501 
502             <!-- Name that the muxer should use in the output file for the codec.
503                  Corresponds to codec_name in libav*.
504             -->
505             <xs:element name="codecName" type="xs:string" minOccurs="0"/>
506 
507             <xs:element name="bitrate" type="xs:unsignedInt" minOccurs="0"/>
508             <xs:element name="timeBase" type="tns:TimeBaseType" minOccurs="0"/>
509 
510             <!-- Profile/presets to use.
511                  MainConcept examples: "ipod", "baseline", "main", "high".
512                  For libavcodec, see presets/ directory. Examples: "main", "normal", "hq".
513             -->
514             <xs:element name="preset" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
515 
516             <!-- Edit Decision List -->
517             <xs:element name="edl" type="tns:EDLType" minOccurs="0"/>
518 
519             <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
520 
521             <xs:element name="objectTracking" type="tns:ComplexJobOTIFType" minOccurs="0" maxOccurs="
522 
523             <xs:element name="metadata" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounde
524         </xs:sequence>
525     </xs:complexType>
526 
527     <xs:complexType name="ComplexJobAudioOutputType">
528         <xs:complexContent>
529             <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComplexJobO
530                 <xs:sequence>
531                     <!-- See generateThumbnails/uri -->
532                     <xs:element name="thumbnailUri" type="xs:anyURI" minOccurs="0" maxOccurs="unbound
533                 </xs:sequence>
```

```
534             </xs:extension>
535         </xs:complexContent>
536     </xs:complexType>
537
538     <xs:complexType name="OverlayType">
539         <xs:sequence>
540             <!-- URI for image to overlay
541                  Should use a pixel format suitable for alpha blending,
542                  like 8-bit RGBA.
543             -->
544             <xs:element name="uri" type="xs:anyURI"/>
545             <xs:element name="id" minOccurs="0" maxOccurs="1" type="tns:SiteIdType"/>
546
547             <!-- Coordinates in video to place overlay at. Can be negative -->
548             <xs:element name="x" type="xs:int"/>
549             <xs:element name="y" type="xs:int"/>
550
551             <!-- Optional: time interval to perform overlay in -->
552             <xs:element name="interval" type="tns:TimeIntervalType" minOccurs="0"/>
553             <xs:element name="opacity" minOccurs="0" maxOccurs="1" type="xs:int"/>
554         </xs:sequence>
555     </xs:complexType>
556
557     <xs:complexType name="ComplexJobVideoOutputType">
558         <xs:complexContent>
559             <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComplexJob
560                 <xs:sequence>
561                     <xs:element name="scaling" minOccurs="0" maxOccurs="1" type="tns:ScalingType"/>
562
563                     <!-- Deprecated. Use <scaling> instead -->
564                     <xs:element name="resolution" type="tns:ResolutionType" minOccurs="0"/>
565
566                     <!-- Pixel format to use, like "yuv420p", "yuv422p", "uyvy422" etc. -->
567                     <xs:element name="pixelFormat" type="xs:string" minOccurs="0"/>
568
569                     <xs:element name="gopSize" type="xs:unsignedShort" minOccurs="0"/>
570                     <xs:element name="maxBFrames" type="xs:unsignedShort" minOccurs="0"/>
571
572                     <!-- rc_buffer_size, size of VBV buffer -->
573                     <xs:element name="rcBufferSize" type="xs:unsignedInt" minOccurs="0"/>
574
575                     <!-- rc_initial_buffer_occupancy. Should equal rc_buffer_size
576                          when encoding CBR
577                     -->
578                     <xs:element name="rcInitialBufferOccupancy" type="xs:unsignedInt" minOccurs="0"/>
579
580                     <!-- Minimum and maximum bitrate. Typically used for CBR output.
581                          Note that for CBR, such as IMX50, you must also set
582                          rcBufferSize and rcInitialOccupancy appropriately.
583                          In the IMX50 case they should both be at least 2 Mbit
584                          and equal.
585                     -->
586                     <xs:element name="minBitrate" type="xs:unsignedInt" minOccurs="0"/>
587                     <xs:element name="maxBitrate" type="xs:unsignedInt" minOccurs="0"/>
588
589                     <xs:element name="colorSiting" type="xs:unsignedShort" minOccurs="0"/>   <!-- Co
590                     <xs:element name="generateThumbnails" minOccurs="0">
591                         <xs:complexType>
```

```
                    <xs:sequence>
                        <!-- If set, send thumbnails to the specified URI, replacing "callbac
                             For example, if the transcoder has been given a license by 12.34

                              http://callback:8080/API/item/VX-1234/thumbnail

                             results in a thumbnail at 0@PAL being PUT to:

                              http://12.34.56.78:8080/API/item/VX-1234/thumbnail/0@PAL
                        -->
                        <xs:element name="uri" type="xs:anyURI" maxOccurs="unbounded"/>
                        <xs:element name="minDelay" type="tns:TimeCodeType" minOccurs="0"/>
                        <xs:element name="maxDelay" type="tns:TimeCodeType" minOccurs="0"/>
                        <xs:element name="background" type="xs:string" minOccurs="0" maxOccur
                        <!-- If set, use scene change detection instead of grabbing one frame
                             This only has to be set - its value can be anything, even the em
                             It should really be an optional boolean, but we keep it as an op
                        -->
                        <xs:element name="detectorPlugin" type="xs:string" minOccurs="0"/>
                        <xs:element name="resolution" type="tns:ResolutionType" minOccurs="0"
                        <xs:element name="period" type="tns:TimeCodeType" minOccurs="0" maxOc
                        <xs:element name="bulkyMetadataURI" type="xs:anyURI" minOccurs="0" ma
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="generatePosters" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="background" type="xs:string" minOccurs="0" maxOccur
                        <xs:element name="resolution" type="tns:ResolutionType" minOccurs="0"
                        <!-- See generateThumbnails/uri -->
                        <xs:element name="uri" type="xs:anyURI" maxOccurs="unbounded"/>
                        <xs:element name="timeCode" type="tns:TimeCodeType" maxOccurs="unbour
                        <xs:element name="format" type="xs:string" minOccurs="0" maxOccurs="1
                        <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0"
                    </xs:sequence>
                    <xs:attribute name="smallPosters" type="xs:boolean" use="optional"/>
                </xs:complexType>
            </xs:element>
            <xs:element name="detectFaces" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="metadataUri" type="xs:anyURI"/>
                        <xs:element name="faceDetectorPlugin" type="xs:string"/>    <!-- maps
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="overlay" type="tns:OverlayType" minOccurs="0" maxOccurs="unbour

            <!-- If set, strip SPS/PPS from packets before handing them off to the muxer.
                 This is required when muxing AVC-Intra for Avid Media Composer, and possibly
            -->
            <xs:element name="stripParameterSets" type="xs:boolean" minOccurs="0"/>

            <!-- If set, add SPS/PPS to the first packet output by the demuxer for this strea
                 The data is taken from extradata - set extradata as well if it is not
                 present or if it is incorrect
            -->
```

```
650                     <xs:element name="addParameterSets" type="xs:boolean" minOccurs="0"/>
651
652                     <!-- If set, explicitly use this for the parameter set data.
653                          If not set, then whatever the demuxer reports as extradata for this stream w
654                     -->
655                     <xs:element name="parameterSets" type="xs:hexBinary" minOccurs="0"/>
656
657                     <!-- If set, use this level.
658                          For H.264, the value of this should be ten times the decimal value of the le
659                          In other words, 1.0 -> 10, 5.1 -> 51 etc.
660                          This applies for both libx264 and MainConcept.
661                          If used, then profile should also be set (via <preset>).
662                     -->
663                     <xs:element name="level" type="xs:int" minOccurs="0"/>
664
665                     <!-- Deprecated -->
666                     <xs:element name="disableFrameDupDrop" type="xs:boolean" minOccurs="0" />
667
668                     <!-- Use <forceCFR> to force the output to be CFR, according to <timeBase>.
669                          For instance, if timeBase = 1/25 then the transcoder will take all frames
670                          from the input and make all of them 40 ms long.
671                          This is useful for formats where the first few frames have bad durations,
672                          or where the framerate of the entire file is demonstrably wrong.
673                          Not used when remuxing.
674                     -->
675                     <xs:element name="forceCFR" type="xs:boolean" minOccurs="0" />
676
677                     <!-- If true, burn the input file's timecode in the output -->
678                     <xs:element name="burnTimecode" type="xs:boolean" minOccurs="0" />
679
680                     <!-- Only used for image transcodes -->
681                     <xs:element name="imageQuality" type="xs:integer" minOccurs="0" />
682
683                     <!-- MXF-ish display rectangle.
684                          This means values straight from CDCIDescriptor for MXF,
685                          but scaled down by SAR for clap in MOV.
686                          In other words, "to display" space, not "displayed" (aka raster) space.
687                     -->
688                     <xs:element name="displayWidth" type="tns:RationalType" minOccurs="0"/>
689                     <xs:element name="displayHeight" type="tns:RationalType" minOccurs="0"/>
690                     <xs:element name="displayXOffset" type="tns:RationalType" minOccurs="0"/>
691                     <xs:element name="displayYOffset" type="tns:RationalType" minOccurs="0"/>
692
693                     <!-- DAR = displayWidth/displayHeight * containerSAR -->
694                     <xs:element name="containerSAR" type="tns:AspectRatioType" minOccurs="0"/>
695                 </xs:sequence>
696             </xs:extension>
697         </xs:complexContent>
698     </xs:complexType>
699
700     <!--
701         ScalingType
702
703         Used to set cropping and scaling parameters to the transcoder.
704
705         By default, the transcoder will attempt to maintain the display aspect
706         ratio (DAR) of the cropped input. Use targetDAR to specify a different
707         DAR to maintain.
```

```
708
709         The transcoder will typically try to adjust the PAR so that the cropped
710         picture ends up with the correct DAR. This minimizes the amount of
711         processing required. Use pixelAspectRatio to set the PAR explicitly, in
712         which case either width or height will be adjusted to maintain DAR.
713
714         Use width and height to scale in those dimensions. If only one of them
715         is set and PAR is set, the other one will be adjusted so the result
716         matches the target DAR. If both are set and and PAR is set, the
717         transcoder will take them as is.
718
719         Setting neither width nor height while PAR is set results in undefined
720         behavior.
721
722         The transcoder will always double-check the resulting dimensions and PAR
723         against the desired DAR. If there's a mismatch, the job will fail. If
724         you want to force the transcoder to accept your settings, set targetDAR
725         manually to the resulting DAR.
726     -->
727     <xs:complexType name="ScalingType">
728         <xs:sequence>
729             <xs:element name="width" minOccurs="0" maxOccurs="1" type="xs:unsignedInt"/>
730             <xs:element name="height" minOccurs="0" maxOccurs="1" type="xs:unsignedInt"/>
731
732             <!-- Specifies the number of pixels to crop out of each side.
733                  Be careful when cropping odd numbers of pixels in any dimension
734                  that is subsampled. For instance, cropping an odd number of
735                  lines in YUV 4:2:0. This will cause the chroma siting to shift.
736             -->
737             <xs:element name="top" minOccurs="0" maxOccurs="1" type="xs:int"/>
738             <xs:element name="bottom" minOccurs="0" maxOccurs="1" type="xs:int"/>
739             <xs:element name="left" minOccurs="0" maxOccurs="1" type="xs:int"/>
740             <xs:element name="right" minOccurs="0" maxOccurs="1" type="xs:int"/>
741             <xs:element name="padColor" minOccurs="0" maxOccurs="1" type="xs:string"/> <!-- HTML (#r
742
743             <!-- Specifies rotation. If no resolution/PAR is set, the PAR
744                  and resolution of the input is inverted to (hopefully)
745                  result in a pixel-to-pixel accurate flipping.
746                  Valid values are "left", "right" and "upsidedown" for 90, -90 and
747                  180 degrees rotation, respectively
748             -->
749             <xs:element name="rotate" minOccurs="0" maxOccurs="1" type="xs:string"/>
750
751             <!-- PAR -->
752             <xs:element name="pixelAspectRatio" minOccurs="0" maxOccurs="1" type="tns:AspectRatioType
753
754             <!-- Desired display aspect ratio -->
755             <xs:element name="targetDAR" minOccurs="0" maxOccurs="1" type="tns:AspectRatioType"/>
756         </xs:sequence>
757     </xs:complexType>
758
759     <xs:complexType name="ComplexJobSubtitleOutputType">
760         <xs:complexContent>
761             <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComplexJob
762                 <xs:sequence/>
763             </xs:extension>
764         </xs:complexContent>
765     </xs:complexType>
```

```
766
767     <xs:complexType name="BorderType">
768         <!-- Alpha + RGB color of border -->
769         <xs:attribute name="a" type="xs:unsignedByte" use="required"/>
770         <xs:attribute name="r" type="xs:unsignedByte" use="required"/>
771         <xs:attribute name="g" type="xs:unsignedByte" use="required"/>
772         <xs:attribute name="b" type="xs:unsignedByte" use="required"/>
773
774         <!-- Width of border in pixels in display space -->
775         <xs:attribute name="width" type="xs:unsignedByte" use="required"/>
776     </xs:complexType>
777
778     <xs:complexType name="TransitionType">
779         <xs:sequence>
780             <xs:element name="duration" type="tns:TimeCodeType"/>
781             <xs:choice>
782                 <!-- SMPTE wipe code (see S258m) -->
783                 <xs:element name="wipe" type="xs:int"/>
784
785                 <!-- Other transition, like "CrossDissolve". Corresponds to Fabric's transitionSubTyp
786                 <xs:element name="transition" type="xs:string"/>
787             </xs:choice>
788             <xs:element name="horizRepeat" type="xs:int" minOccurs="0"/>
789             <xs:element name="vertRepeat" type="xs:int" minOccurs="0"/>
790
791             <!-- startPercentage and endPercentage can optionally be used to override the normal 0-1
792             <xs:element name="startPercentage" type="xs:int" minOccurs="0"/>
793             <xs:element name="endPercentage" type="xs:int" minOccurs="0"/>
794
795             <!-- If set and true, reverse the direction of the wipe -->
796             <xs:element name="reverse" type="xs:boolean" minOccurs="0"/>
797
798             <xs:element name="border" type="tns:BorderType" minOccurs="0"/>
799         </xs:sequence>
800     </xs:complexType>
801
802     <!-- Generic "I want this stream from that input" type. Works for both audio and video -->
803     <xs:complexType name="ComplexJobInputType">
804         <xs:sequence>
805             <xs:element name="id" type="xs:int"/>
806             <xs:element name="stream" type="xs:unsignedShort"/>
807
808             <!-- Optional: transition effect to use when this input is followed by another input in a
809             <xs:element name="transition" type="tns:TransitionType" minOccurs="0"/>
810
811             <!-- Optional: Use this to set settings for decoders -->
812             <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
813         </xs:sequence>
814     </xs:complexType>
815
816     <!--
817           Input type for grabbing a specific channel from an input audio stream.
818           Several of these as inputs in a connection make it possible to create a new stream from M e
819     -->
820     <xs:complexType name="ComplexJobAudioChannelMapInputType">
821         <xs:complexContent>
822             <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComplexJobI
823                 <xs:sequence>
```

```
824                     <xs:element name="channel" type="xs:unsignedShort"/>
825                 </xs:sequence>
826             </xs:extension>
827         </xs:complexContent>
828     </xs:complexType>
829
830     <!-- Input type for joining together several mono audio sequences
831          In other words, this type defines a mono timeline.
832          The mono intervals specified by each ComplexJobAudioChannelMapInputType
833          element in this type are joined together to produce the output.
834
835          Several ComplexJobAudioChannelSequenceInputType elements are used in
836          ComplexJobType to produce a full timeline - one for each channel.
837
838          Note that if no channels need to be extracted separately a
839          ComplexJobInputType array should be use instead (see
840          ComplexJobType/connection/input).
841     -->
842     <xs:complexType name="ComplexJobAudioChannelSequenceInputType">
843         <xs:sequence>
844             <xs:element name="input" type="tns:ComplexJobAudioChannelMapInputType" minOccurs="1" max
845         </xs:sequence>
846     </xs:complexType>
847
848     <xs:complexType name="ComplexJobMixType">
849         <xs:attribute name="id" type="xs:int" use="required"/>
850         <xs:attribute name="stream" type="xs:unsignedShort" use="required"/>
851         <xs:attribute name="channel" type="xs:unsignedShort" use="required"/>
852         <xs:attribute name="gain" type="xs:float" use="required"/>              <!-- linear; 1.0 = 0
853     </xs:complexType>
854
855     <xs:complexType name="ComplexJobMixInputType">
856        <xs:sequence>
857             <xs:element name="mix" type="tns:ComplexJobMixType" minOccurs="1" maxOccurs="unbounded"/>
858         </xs:sequence>
859     </xs:complexType>
860
861     <!-- Used to request extraction of various types of metadata from input files to be reported to a
862     <xs:complexType name="ComplexJobBulkyMetadataRequestType">
863         <xs:sequence>
864             <xs:element name="targetUri" type="xs:anyURI"/>                                  <!-- URI
865             <xs:element name="failIfTimecodeNotPresent" type="xs:boolean" minOccurs="0"/>    <!-- If
866         </xs:sequence>
867     </xs:complexType>
868
869     <!-- Information needed by the PartialFileDemuxer -->
870     <xs:complexType name="PartialFileDemuxerInfoType">
871         <xs:sequence>
872             <!-- The user can either use a full desriptor or give a URI pointing to one -->
873             <xs:choice>
874                 <xs:element name="descriptor" type="tns:PartialFileDescriptorType"/>
875                 <xs:element name="descriptorLocation" type="xs:anyURI"/>
876             </xs:choice>
877
878             <!-- Offset into original file that ComplexJobType/input/uri
879                  consists of. In other words, how far into the file the binary
880                  blob was cut.
881             -->
```

```
            <xs:element name="byteOffset" type="xs:long" minOccurs="0"/>
            <xs:element name="adjustForPTSPredecessors" type="xs:boolean" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ComplexJobAtomType">
        <xs:attribute name="uri" type="xs:anyURI" use="required"/>

        <!-- generated if not set -->
        <xs:attribute name="sourcePackageID" type="tns:UMIDType" use="optional"/>
    </xs:complexType>

    <xs:complexType name="AnalyzeAudioChannelType">
        <xs:sequence>
            <xs:element name="tone" type="xs:float" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>

        <!-- Which channel in which stream to use these tones and thresholds for -->
        <xs:attribute name="stream" type="xs:unsignedShort" use="required"/>
        <xs:attribute name="channel" type="xs:unsignedShort" use="required"/>

        <!-- Silence threshold. Linear value proportional to maximum sample value.
             In other words:
              0.0  = -inf dB
              0.001=  -30 dB (default)
              1.0  =    0 dB
        -->
        <xs:attribute name="thresh" type="xs:float" use="optional"/>
    </xs:complexType>

    <xs:complexType name="AnalyzeAudioType">
        <xs:sequence>
            <xs:element name="otif" type="tns:ComplexJobOTIFType" minOccurs="0" maxOccurs="unbounded"
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="AnalyzeVideoType">
        <xs:sequence>
            <xs:element name="otif" type="tns:ComplexJobOTIFType" minOccurs="0" maxOccurs="unbounded"
        </xs:sequence>
    </xs:complexType>

    <!-- Used for analyzing input video. See transcoder tickets #82 and #83 -->
    <xs:complexType name="ComplexJobAnalyzeType">
        <xs:sequence>
            <xs:element name="channel" type="tns:AnalyzeAudioChannelType" minOccurs="0" maxOccurs="un
            <xs:element name="audio" type="tns:AnalyzeAudioType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="video" type="tns:AnalyzeVideoType" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
        <xs:attribute name="metadataUri" type="xs:anyURI" use="required"/>

        <!-- Thresholds are relative to the maximum pixel value, meaning values around 0-0.1 are reas
        <xs:attribute name="blackThresh" type="xs:float" use="optional"/>
        <xs:attribute name="blackPercentage" type="xs:int" use="optional"/>
        <xs:attribute name="barsThresh" type="xs:float" use="optional"/>
        <xs:attribute name="barsPercentage" type="xs:int" use="optional"/>
        <xs:attribute name="freezeThresh" type="xs:float" use="optional"/>
        <xs:attribute name="freezeTime" type="xs:float" use="optional"/>
```

```
940     </xs:complexType>
941
942     <!-- Used for pairing a resource with a name in the OTIF type -->
943     <xs:complexType name="NameURIPairType">
944         <xs:sequence>
945             <xs:element name="name" minOccurs="1" maxOccurs="1" type="xs:string"/>
946             <xs:element name="uri" minOccurs="1" maxOccurs="1" type="xs:anyURI"/>
947         </xs:sequence>
948     </xs:complexType>
949
950     <xs:complexType name="TranscoderJobType">
951         <xs:sequence>
952         </xs:sequence>
953     </xs:complexType>
954
955     <xs:complexType name="ComplexJobOutputFormatType">
956         <xs:sequence>
957             <xs:element name="id" type="xs:int"/>
958
959             <xs:choice>
960                 <!-- Normal single-file output -->
961                 <xs:element name="uri" type="xs:anyURI"/>
962
963                 <!-- For multi-OPAtom output (mxf_multiatom*)
964                     The number of connections to the muxer must equal the number of atom elements hei
965                 -->
966                 <xs:element name="atom" type="tns:ComplexJobAtomType" maxOccurs="unbounded"/>
967             </xs:choice>
968
969             <xs:element name="containerFormat" type="xs:string"/>
970             <xs:element name="overlay" type="tns:OverlayType" minOccurs="0"/>
971             <xs:element name="dms1Source" minOccurs="0">
972                 <xs:complexType>
973                     <xs:choice>
974                         <xs:element name="demuxerId" type="xs:int"/>
975                         <xs:element name="metadata" type="tns:DMS1Type"/>
976                     </xs:choice>
977                 </xs:complexType>
978             </xs:element>
979             <!-- DEPRECATED: String representation of the SMPTE 12M time code to use for the first fi
980             <xs:element name="initialSMPTETimecode" type="xs:string" minOccurs="0"/>
981
982             <!-- Corresponds to StartTimecode in TimecodeComponent in MXF -->
983             <xs:element name="startTimecode" type="xs:long" minOccurs="0"/>
984
985             <!-- Corresponds to RoundedTimeBase in TimecodeComponent in MXF -->
986             <xs:element name="roundedTimeBase" type="xs:int" minOccurs="0"/>
987
988             <!-- Corresponds to DropFrame in TimecodeComponent in MXF -->
989             <xs:element name="dropFrame" type="xs:boolean" minOccurs="0"/>
990
991             <!-- Set to true if muxing MOV and the user wants the job to fail if any stream lacks an
992             <xs:element name="requireFaststart" type="xs:boolean" minOccurs="0"/>
993             <!-- Set to desired bitrate for CBR muxing: Mainly used for mpegts -->
994             <xs:element name="muxrate" type="xs:unsignedInt" minOccurs="0"/>
995
996             <!-- If using a muxer that supports outputing a PartialFileDescriptorDocument,
997                  setting this causes the resulting document to be written
```

```
                to the specified URI when the job finishes.
            -->
            <xs:element name="pfdTargetUri" type="xs:anyURI" minOccurs="0"/>

            <!-- Material and tape packages to use in the file -->
            <xs:element name="mxfPackages" type="tns:MXFPackagesType" minOccurs="0"/>

            <!-- Global flat metadata -->
            <xs:element name="metadata" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounde

            <!-- MaterialPackage -> Name for MXF.
                Not applicable to most other formats (except maybe MOV).
            -->
            <xs:element name="clipName" type="xs:string" minOccurs="0"/>

            <!-- Controls how the maximum time period that each chunk of samples is going to be, only
            <xs:element name="maxChunkDuration" type="tns:TimeCodeType" minOccurs="0"/>

            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>
```

ComplexJobDocument

```
    <xs:element name="ComplexJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
```

ImageJobDocument

```
    <xs:element name="ImageJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="ComplexJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="input" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="xs:int"/>

                        <!-- Use multiple URIs if transcoding image sequences -->
                        <xs:element name="uri" type="xs:anyURI" maxOccurs="unbounded"/>

                        <xs:element name="partialFile" type="tns:PartialFileDemuxerInfoType" minOccur
                        <xs:element name="interval" type="tns:TimeIntervalType" minOccurs="0"/>

                        <!-- If set to true, then interval applies to DTS, not PTS.
                            This may be useful if remuxing and the input file lacks PTS:es.
                            We almost always want to filter frames/packets on PTS though.
                            Use of this is discouraged for now.
                        -->
                        <xs:element name="intervalIsDts" type="xs:boolean" minOccurs="0"/>

                        <xs:element name="dms1TargetUri" type="xs:anyURI" minOccurs="0"/>
                        <!-- faststartDuration is needed if muxing MOV and faststart is desired and t
                            The transcoder will make an estimate for the number of packets and the r
                            Set this value to the length of the input if known through some other me

                            The override attribute should be set to true if the transcoder is wrong
                        -->
                        <xs:element name="faststartDuration" minOccurs="0">
```

```
                            <xs:complexType>
                                <xs:complexContent>
                                    <xs:extension base="tns:TimeCodeType">
                                        <xs:attribute name="override" type="xs:boolean" use="required
                                    </xs:extension>
                                </xs:complexContent>
                            </xs:complexType>
                        </xs:element>
                        <xs:element name="bulkyMetadataRequest" type="tns:ComplexJobBulkyMetadataRequ
                        <!-- Both of these elemets are hacks to handle broken files. The integer is t
                        <xs:element name="scanForStartPTS" type="xs:int" minOccurs="0" />
                        <xs:element name="doubleDurationHack" type="xs:int" minOccurs="0" />

                        <!-- Optional: Use this to set settings for demuxers -->
                        <xs:element name="demuxerSetting" type="tns:KeyValuePairType" minOccurs="0" m

                        <xs:element name="analyze" type="tns:ComplexJobAnalyzeType" minOccurs="0"/>
                        <!-- Use for setting a page number (in PDFs) -->
                        <xs:element name="pageno" type="xs:int" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="output" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:complexContent>
                        <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns
                    </xs:complexContent>
                </xs:complexType>
            </xs:element>
            <xs:element name="connection" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:choice>
                            <!-- Use of more than one input means that the streams should be concater
                            <xs:element name="input" type="tns:ComplexJobInputType" minOccurs="1" max
                            <!-- Used to extract and interleave channels from multiple input streams
                            <xs:element name="audioChannelMapInput" type="tns:ComplexJobAudioChannelM
                            <!-- Used to interleave several mono timelines into this audio stream -->
                            <xs:element name="audioChannelSequenceInput" type="tns:ComplexJobAudioCha

                            <!-- Used to mix several mono streams into one multi-channel stream
                                 Each audioMixInput element specifies the mix matrix for one mono cha
                            <xs:element name="audioMixInput" type="tns:ComplexJobMixInputType" minOcc
                        </xs:choice>
                        <xs:choice>
                            <xs:element name="audioOutput" type="tns:ComplexJobAudioOutputType"/>
                            <xs:element name="videoOutput" type="tns:ComplexJobVideoOutputType"/>
                            <xs:element name="subtitleOutput" type="tns:ComplexJobSubtitleOutputType"
                        </xs:choice>
                        <!-- PID, or similar per-stream ID for use by the muxer -->
                        <xs:element name="pid" type="xs:int" minOccurs="0"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:extension>
    </xs:complexContent>
    </xs:complexType>
```

```
    <xs:complexType name="XMPReadOperation">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="uri" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="XMPWriteOperation">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="uri" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
            <xs:element name="xmp" type="xs:string" minOccurs="1" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

XMPJobDocument

```
    <xs:element name="XMPJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns
    <xs:complexType name="XMPJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
                <xs:sequence>
                    <xs:element name="read" type="tns:XMPReadOperation" minOccurs="0" maxOccurs="unbo
                    <xs:element name="write" type="tns:XMPWriteOperation" minOccurs="0" maxOccurs="un
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="TransferOperation">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="sourceUri" type="xs:anyURI" minOccurs="1" maxOccurs="unbounded"/>
            <xs:element name="destinationUri" type="xs:anyURI" minOccurs="1" maxOccurs="unbounded"/>
            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>
```

TransferJobDocument

```
    <xs:element name="TransferJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
    <xs:complexType name="TransferJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
                <xs:sequence>
                    <xs:element name="transfer" type="tns:TransferOperation" minOccurs="0" maxOccurs=
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="HashComputeOperation">
        <xs:sequence>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="uri" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
            <xs:element name="function" type="xs:string" minOccurs="0" maxOccurs="1"/>
```

```
            <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="unbounded
        </xs:sequence>
    </xs:complexType>
```

HashJobDocument

```
    <xs:element name="HashJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tn
    <xs:complexType name="HashJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
                <xs:sequence>
                    <xs:element name="compute" type="tns:HashComputeOperation" minOccurs="0" maxOccur
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

ShapeDeductionJobDocument

```
    <xs:element name="ShapeDeductionJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="ShapeDeductionJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="input" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="uri" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="image" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="useMediaInfo" type="xs:boolean" minOccurs="0" maxOccurs="1
                        <xs:element name="verbose" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccur
                        <!-- Use for setting a page number (in PDFs) -->
                        <xs:element name="pageno" type="xs:int" minOccurs="0" maxOccurs="1"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

DurationJobDocument

```
    <xs:element name="DurationJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
    <xs:complexType name="DurationJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="input" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="uri" type="xs:anyURI" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccur
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
```

```
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <!-- Types used for defining a MOV index generation job -->
```

MOVIndexJobDocument

```
    <xs:element name="MOVIndexJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type
    <xs:complexType name="MOVIndexJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="targetUri" type="xs:anyURI"/>         <!-- http://example.com/index.mov
            <xs:element name="source" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="uri" type="xs:anyURI"/>   <!-- absolute URI to derive index
                        <xs:element name="alias" type="xs:anyURI" minOccurs="0"/> <!-- relative URI t
                        <xs:element name="absoluteAlias" type="xs:anyURI" minOccurs="0"/> <!-- absolu
                        <xs:element name="setting" type="tns:KeyValuePairType" minOccurs="0" maxOccur
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

MXFTimecodeExtractionJobDocument

```
    <xs:element name="MXFTimecodeExtractionJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="MXFTimecodeExtractionJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="sourceUri" type="xs:anyURI"/>         <!-- URI to read MXF from -->
            <xs:element name="targetUri" type="xs:anyURI"/>         <!-- URI to write BulkyMetadata t
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <!-- Generates an Op1b MXF file that points to several pieces of external essence -->
```

MXFOp1bJobDocument

```
    <xs:element name="MXFOp1bJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type=
    <xs:complexType name="MXFOp1bJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="output" type="xs:anyURI"/>        <!-- URI to write to -->
            <xs:element name="reference" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <!-- URI to read metadata from. Usually equal to locator[0] -->
                        <xs:element name="source" type="xs:anyURI"/>
```

```
                        <!-- List of stream the user wants to include in this reference -->
                        <xs:element name="stream" type="xs:unsignedShort" maxOccurs="unbounded"/>
                        <!--
                             locator: List of network locators (URIs) to external essence, ordered by
                                      Relative URIs should go first, absolute URIs as fallbacks near
                                 Ex.: <locator>essence/video.m2v</locator>
                                      <locator>ftp://example.com/essence/video.m2v</locator>
                        -->
                        <xs:element name="locator" type="xs:anyURI" maxOccurs="unbounded"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

SegmentationJobDocument

```
    <xs:element name="SegmentationJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine"
    <xs:complexType name="SegmentationJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <!-- URI to material to segment. example: http://example.com/video.ts -->
            <xs:element name="input" type="xs:anyURI"/>
            <!-- URI to write playlist to when done. example: http://example.com/foo.m3u -->
            <xs:element name="playlistOutput" type="xs:anyURI"/>
            <!-- The prefix and postfix combine with a number to form the full URI. example:

                     prefix = "http://example.com/media/segment"
                    postfix = ".ts"
                segment 1 = http://example.com/media/segment1.ts
                segment 2 = http://example.com/media/segment2.ts etc.
            -->
            <xs:element name="segmentUriPrefix" type="xs:string"/>
            <xs:element name="segmentUriPostfix" type="xs:string"/>
            <!-- Container format to use for all segments. example: "mpegts" -->
            <xs:element name="containerFormat" type="xs:string"/>
            <!-- Suggested length of each segment. The transcoder will do its best if this is not a
            <xs:element name="segmentLength" type="tns:TimeCodeType"/>
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <!-- XML types for NLEJob -->

    <xs:complexType name="SubClipType">
        <xs:attribute name="id" type="xs:int" use="required"/>
        <xs:attribute name="start" type="xs:int" use="required"/>
        <xs:attribute name="length" type="xs:unsignedInt" use="required"/>
    </xs:complexType>

    <xs:complexType name="ClipType">
        <xs:sequence>
            <xs:element name="subClip" type="tns:SubClipType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
```

```
1326        <xs:attribute name="uri" type="xs:anyURI" use="optional"/>
1327        <xs:attribute name="stream" type="xs:unsignedShort" use="optional"/>
1328        <xs:attribute name="id" type="xs:anyURI" use="optional"/>
1329        <xs:attribute name="track" type="xs:unsignedShort" use="optional"/>
1330    </xs:complexType>
1331
1332    <xs:complexType name="VideoClipType">
1333        <xs:complexContent>
1334            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ClipType"/>
1335        </xs:complexContent>
1336    </xs:complexType>
1337
1338    <xs:complexType name="AudioClipType">
1339        <xs:complexContent>
1340            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ClipType">
1341                <xs:attribute name="channel" type="xs:unsignedShort" use="required"/>
1342            </xs:extension>
1343        </xs:complexContent>
1344    </xs:complexType>
1345
1346    <xs:complexType name="SubtitleClipType">
1347        <xs:sequence>
1348            <!-- Using an array of strings to work around the need to deal with different NLEs using
1349            <xs:element name="line" type="xs:string" maxOccurs="unbounded"/>
1350        </xs:sequence>
1351        <xs:attribute name="id" type="xs:int" use="required"/>
1352        <xs:attribute name="length" type="xs:unsignedInt" use="required"/>
1353
1354        <xs:attribute name="align" type="xs:string" use="optional"/>        <!-- Text alignment. May
1355        <xs:attribute name="x" type="xs:int" use="optional"/>               <!-- default = 0. Center
1356        <xs:attribute name="y" type="xs:int" use="optional"/>               <!-- default = 0. Center
1357        <xs:attribute name="xRel" type="xs:double" use="optional"/>                <!-- optional, ove
1358        <xs:attribute name="yRel" type="xs:double" use="optional"/>                <!-- optional, ove
1359        <xs:attribute name="horizontalBase" type="xs:string" use="optional"/>      <!-- optional, only
1360        <xs:attribute name="verticalBase" type="xs:string" use="optional"/>        <!-- optional, only
1361        <xs:attribute name="font" type="xs:string" use="optional"/>         <!-- default = "Arial". D
1362        <xs:attribute name="size" type="xs:unsignedInt" use="optional"/>    <!-- default = 12. Size o
1363        <xs:attribute name="sizeRel" type="xs:double" use="optional"/>    <!-- optional, overrides si
1364        <xs:attribute name="r" type="xs:unsignedByte" use="optional"/>      <!-- default = 255. Text
1365        <xs:attribute name="g" type="xs:unsignedByte" use="optional"/>      <!-- default = 255. Text
1366        <xs:attribute name="b" type="xs:unsignedByte" use="optional"/>      <!-- default = 255. Text
1367        <xs:attribute name="a" type="xs:unsignedByte" use="optional"/>      <!-- default = 255. Text
1368
1369        <!-- Outline type. Values:
1370               "none" = No outline (default)
1371                "box" = Draw solid box behind text, SVT style
1372             "stroke" = Stroke text
1373        -->
1374        <xs:attribute name="outline" type="xs:string" use="optional"/>
1375
1376        <!--    "box": How much larger the box is on each side compared to the text's bounding box
1377             "stroke": How far out the font is stroked
1378        -->
1379        <xs:attribute name="outlineSize" type="xs:unsignedInt" use="optional"/>
1380
1381        <xs:attribute name="outlineR" type="xs:unsignedByte" use="optional"/>      <!-- default = 0.
1382        <xs:attribute name="outlineG" type="xs:unsignedByte" use="optional"/>      <!-- default = 0.
1383        <xs:attribute name="outlineB" type="xs:unsignedByte" use="optional"/>      <!-- default = 0.
```

```
        <xs:attribute name="outlineA" type="xs:unsignedByte" use="optional"/>      <!-- default = 25
    </xs:complexType>

    <!-- Like TransitionType, except we use xs:unsignedInt for duration and only attributes -->
    <xs:complexType name="NLEJobTransitionType">
        <xs:sequence>
            <xs:element name="border" type="tns:BorderType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="length" type="xs:unsignedInt" use="required"/>
        <xs:attribute name="wipe" type="xs:int" use="optional"/>
        <xs:attribute name="transition" type="xs:string" use="optional"/>
        <xs:attribute name="horizRepeat" type="xs:int" use="optional"/>
        <xs:attribute name="vertRepeat" type="xs:int" use="optional"/>
        <xs:attribute name="startPercentage" type="xs:int" use="optional"/>
        <xs:attribute name="endPercentage" type="xs:int" use="optional"/>
        <xs:attribute name="reverse" type="xs:boolean" use="optional"/>

        <!-- For internal transcoder use when cutting NLEJobDocuments -->
        <xs:attribute name="delta" type="xs:unsignedInt" use="optional"/>
    </xs:complexType>

    <xs:complexType name="TrackSegmentType">
        <xs:sequence>
            <xs:element name="effect" type="tns:EffectType" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="transition" type="tns:NLEJobTransitionType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="fillerLength" type="xs:unsignedInt" use="optional"/>    <!-- filler, wit
        <xs:attribute name="subClip" type="xs:int" use="optional"/>                 <!-- ID of subCl
    </xs:complexType>

    <xs:complexType name="EffectPointType">
        <xs:attribute name="value" type="xs:float" use="required"/>

        <!-- The position of this value relative to the segment -->
        <xs:attribute name="position" type="xs:int" use="required"/>
    </xs:complexType>

    <xs:complexType name="EffectParameterType">
        <xs:sequence>
            <!-- Points are used for changing a parameter's value over time -->
            <xs:element name="point" type="tns:EffectPointType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
        <xs:attribute name="name" type="xs:string" use="required"/>

        <!-- Setting this value causes it to be applied to the segment's entire interval.
             In other words, it makes the parameter non-temporal.
        -->
        <xs:attribute name="value" type="xs:float" use="optional"/>
    </xs:complexType>

    <xs:complexType name="EffectType">
        <xs:sequence>
            <xs:element name="parameter" type="tns:EffectParameterType" minOccurs="0" maxOccurs="unbo
        </xs:sequence>
        <xs:attribute name="name" type="xs:string" use="required"/>
    </xs:complexType>
```

```
1442    <xs:complexType name="TrackType">
1443        <xs:sequence>
1444            <xs:element name="segment" type="tns:TrackSegmentType" maxOccurs="unbounded"/>
1445        </xs:sequence>
1446    </xs:complexType>
1447
1448    <xs:complexType name="NLEJobSequenceType">
1449        <xs:sequence>
1450            <xs:element name="track" type="tns:TrackType" maxOccurs="unbounded"/>   <!-- List of trac
1451        </xs:sequence>
1452        <xs:attribute name="id" type="xs:int" use="required"/>
1453        <xs:attribute name="length" type="xs:unsignedInt" use="required"/>
1454    </xs:complexType>
1455
1456    <xs:complexType name="NLEJobVideoOutputType">
1457        <xs:sequence>
1458            <xs:element name="preset" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
1459        </xs:sequence>
1460        <xs:attribute name="uri" type="xs:anyURI" use="optional"/>                  <!-- used when ou
1461        <xs:attribute name="sequence" type="xs:int" use="required"/>
1462        <xs:attribute name="codec" type="xs:string" use="required"/>
1463        <xs:attribute name="bitrate" type="xs:unsignedInt" use="required"/>
1464        <xs:attribute name="pixelFormat" type="xs:string" use="optional"/>          <!-- needed for c
1465        <xs:attribute name="gopSize" type="xs:unsignedShort" use="optional"/>       <!-- set to zero
1466        <xs:attribute name="maxBFrames" type="xs:unsignedShort" use="optional"/>    <!-- maximum numb
1467    </xs:complexType>
1468
1469    <xs:complexType name="NLEJobAudioOutputType">
1470        <xs:sequence>
1471            <xs:element name="sequence" type="xs:int" maxOccurs="unbounded"/>       <!-- Audio sequen
1472        </xs:sequence>
1473        <xs:attribute name="uri" type="xs:anyURI" use="optional"/>                  <!-- used when ou
1474        <xs:attribute name="codec" type="xs:string" use="required"/>
1475        <xs:attribute name="bitrate" type="xs:unsignedInt" use="optional"/>         <!-- not applicab
1476    </xs:complexType>
1477
1478    <xs:complexType name="NLEJobOutputType">
1479        <xs:sequence>
1480            <xs:element name="video" type="tns:NLEJobVideoOutputType" minOccurs="0" maxOccurs="unboun
1481            <xs:element name="audio" type="tns:NLEJobAudioOutputType" minOccurs="0" maxOccurs="unboun
1482        </xs:sequence>
1483        <xs:attribute name="uri" type="xs:anyURI" use="optional"/>                  <!-- unique URIs
1484        <xs:attribute name="containerFormat" type="xs:string" use="required"/>
1485        <xs:attribute name="umid" type="tns:UMIDType" use="optional"/>              <!-- Should be se
1486
1487        <!-- MaterialPackage -> Name for MXF.
1488             Not applicable to most other formats (except maybe MOV).
1489        -->
1490        <xs:attribute name="clipName" type="xs:string" use="optional"/>
1491    </xs:complexType>
1492
1493    <xs:complexType name="NLEJob2VideoOutputType">
1494        <xs:complexContent>
1495            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComplexJobV
1496                <xs:sequence>
1497                    <xs:element name="uri" type="xs:anyURI" minOccurs="0" maxOccurs="1" />
1498                    <xs:element name="sequence" type="xs:int" minOccurs="1" />
1499                </xs:sequence>
```

```
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="NLEJob2AudioOutputType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:ComplexJobA
                <xs:sequence>
                    <xs:element name="uri" type="xs:anyURI" minOccurs="0" maxOccurs="1" />
                    <xs:element name="sequence" type="xs:int" maxOccurs="unbounded" />
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="NLEJob2OutputType">
        <xs:sequence>
            <xs:element name="format" type="tns:ComplexJobOutputFormatType" minOccurs="1" maxOccurs="
            <xs:element name="video" type="tns:NLEJob2VideoOutputType" minOccurs="0" maxOccurs="unbou
            <xs:element name="audio" type="tns:NLEJob2AudioOutputType" minOccurs="0" maxOccurs="unbou
        </xs:sequence>
    </xs:complexType>
```

NLEJobDocument

```
    <xs:element name="NLEJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="tns
    <xs:complexType name="NLEJobType">
        <xs:complexContent>
            <xs:extension base="tns:TranscoderJobType">
        <xs:sequence>
            <xs:element name="frameRate" type="tns:FrameRateType"/>
            <xs:element name="width" type="xs:unsignedShort"/>
            <xs:element name="height" type="xs:unsignedShort"/>
            <xs:element name="dar" type="tns:AspectRatioType"/>
            <xs:element name="sampleRate" type="xs:unsignedInt"/>

            <!-- What frame to pause the rendering at.
                 See ticket #106.
            -->
            <xs:element name="pauseFrame" type="xs:unsignedInt" minOccurs="0"/>

            <xs:element name="videoClip" type="tns:VideoClipType" minOccurs="0" maxOccurs="unbounded"
            <xs:element name="audioClip" type="tns:AudioClipType" minOccurs="0" maxOccurs="unbounded"
            <xs:element name="subtitleClip" type="tns:SubtitleClipType" minOccurs="0" maxOccurs="unbo
            <xs:element name="sequence" type="tns:NLEJobSequenceType" maxOccurs="unbounded"/>
            <xs:element name="output" type="tns:NLEJobOutputType" minOccurs="0" maxOccurs="unbounded"
            <xs:element name="output2" type="tns:NLEJob2OutputType" minOccurs="0" maxOccurs="unbounde
        </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <!-- QueueJob -->
```

QueueJobDocument

```
    <xs:element name="QueueJobDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="QueueJobType">
        <xs:sequence>
```

```
1554            <!-- Ordered list of jobs to run. Recursion (putting QueueJobs in job elements) is allowe
1555            <xs:element name="job" type="tns:JobRequestChoiceType" maxOccurs="unbounded"/>
1556        </xs:sequence>
1557    </xs:complexType>
1558
1559    <!-- For specifying one of the valid job request types.
1560         Also useful since a virtual funtion in the Job class can return JobRequestChoiceType and hav
1561    <xs:complexType name="JobRequestChoiceType">
1562        <xs:choice>
1563            <xs:element name="timelineRequest" type="tns:TimelineJobRequestType"/>
1564            <xs:element name="complexRequest" type="tns:ComplexJobType"/>
1565            <xs:element name="movIndexRequest" type="tns:MOVIndexJobType"/>
1566            <xs:element name="mxfTimecodeExtractionRequest" type="tns:MXFTimecodeExtractionJobType"/>
1567            <xs:element name="mxfOp1bRequest" type="tns:MXFOp1bJobType"/>
1568            <xs:element name="segmentationRequest" type="tns:SegmentationJobType"/>
1569            <xs:element name="nleRequest" type="tns:NLEJobType"/>
1570            <xs:element name="queueRequest" type="tns:QueueJobType"/>
1571            <xs:element name="durationRequest" type="tns:DurationJobType"/>
1572            <xs:element name="shapeDeductionRequest" type="tns:ShapeDeductionJobType"/>
1573            <xs:element name="xmpRequest" type="tns:XMPJobType"/>
1574            <xs:element name="hashRequest" type="tns:HashJobType"/>
1575            <xs:element name="transferRequest" type="tns:TransferJobType"/>
1576        </xs:choice>
1577    </xs:complexType>
1578
1579    <xs:complexType name="JobLogEntryType">
1580        <xs:simpleContent>
1581            <xs:extension base="xs:string">
1582                <xs:attribute name="timestamp" type="xs:dateTime"/>
1583                <xs:attribute name="level" type="xs:string"/>
1584            </xs:extension>
1585        </xs:simpleContent>
1586    </xs:complexType>
1587
1588    <xs:complexType name="JobInputProgressType">
1589        <xs:sequence>
1590            <!-- Highest (timestamp + duration - startTime) of all packets processed for this input s
1591            <xs:element name="mediaTime" type="tns:TimeCodeType"/>
1592
1593            <!-- Duration of file, if known -->
1594            <xs:element name="duration" type="tns:TimeCodeType" minOccurs="0"/>
1595        </xs:sequence>
1596    </xs:complexType>
1597
1598    <!-- For returning job status in various cases -->
```

JobStatusDocument

```
1599    <xs:element name="JobStatusDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="
1600    <xs:complexType name="JobStatusType">
1601        <xs:sequence>
1602            <xs:element name="statusUri" type="xs:anyURI"/>                    <!-- URI fi
1603            <xs:element name="id" type="tns:SiteIdType"/>
1604            <xs:element name="isRunning" type="xs:boolean"/>
1605            <xs:element name="isPaused" type="xs:boolean"/>
1606            <xs:element name="walltime" type="xs:double"/>
1607            <xs:element name="exitcode" type="xs:int" minOccurs="0"/>          <!-- Exit c
1608            <xs:element name="message" type="xs:string" minOccurs="0"/>        <!-- Possib
```

```
1609            <xs:element name="log" type="tns:JobLogEntryType"
1610                minOccurs="0" maxOccurs="unbounded"/>                                   <!-- Log en
1611            <xs:element name="request" type="tns:JobRequestChoiceType" minOccurs="0"/>  <!-- the re
1612            <xs:element name="inputProgress" type="tns:JobInputProgressType"
1613                minOccurs="0" maxOccurs="unbounded"/>                                   <!-- Amount
1614            <xs:element name="progress" type="xs:float" minOccurs="0"/>                 <!-- Overva
1615                                                                                            It is
1616            <xs:element name="estimatedTimeLeft" type="xs:float" minOccurs="0"/>        <!-- wallti
1617            <xs:element name="thumbnail" type="tns:ThumbnailInfoType"
1618                minOccurs="0" maxOccurs="unbounded" />                                  <!-- Info o
1619            <xs:element name="shapeDeductionResponse" type="tns:ShapeDeductionResponse" minOccurs="0"
1620            <xs:element name="durationResponse" type="tns:DurationResponse" minOccurs="0" maxOccurs="
1621            <xs:element name="xmpResponse" type="tns:XMPResponse" minOccurs="0" maxOccurs="unbounded"
1622            <xs:element name="hashResponse" type="tns:HashResponse" minOccurs="0" maxOccurs="unbounde
1623            <xs:element name="transferResponse" type="tns:TransferResponse" minOccurs="0" maxOccurs="
1624        </xs:sequence>
1625    </xs:complexType>
1626
1627    <xs:complexType name="XMPResponse">
1628        <xs:sequence>
1629            <xs:element name="id" type="xs:string" />
1630            <xs:element name="uri" type="xs:anyURI" />
1631            <xs:element name="xmp" type="xs:string" />
1632        </xs:sequence>
1633    </xs:complexType>
1634
1635    <xs:complexType name="HashResponse">
1636        <xs:sequence>
1637            <xs:element name="id" type="xs:string" />
1638            <xs:element name="uri" type="xs:anyURI" />
1639            <xs:element name="function" type="xs:string" />
1640            <xs:choice>
1641                <xs:element name="hash" type="xs:string" />
1642                <xs:element name="error" type="xs:string" />
1643            </xs:choice>
1644        </xs:sequence>
1645    </xs:complexType>
1646
1647    <xs:complexType name="TransferResponse">
1648        <xs:sequence>
1649            <xs:element name="id" type="xs:string" />
1650            <xs:element name="sourceUri" type="xs:anyURI" minOccurs="1" maxOccurs="unbounded" />
1651            <xs:element name="destinationUri" type="xs:anyURI" minOccurs="1" maxOccurs="unbounded" />
1652            <xs:element name="error" type="xs:string" minOccurs="0" maxOccurs="1" />
1653        </xs:sequence>
1654    </xs:complexType>
1655
1656    <xs:complexType name="ShapeDeductionResponse">
1657        <xs:sequence>
1658            <xs:element name="id" type="xs:string" />
1659            <xs:element name="uri" type="xs:anyURI" />
1660            <xs:element name="shape" type="tns:ShapeType" />
1661        </xs:sequence>
1662    </xs:complexType>
1663
1664    <xs:complexType name="DurationResponse">
1665        <xs:sequence>
1666            <xs:element name="id" type="xs:string" />
```

```
            <xs:element name="uri" type="xs:anyURI" />
            <xs:element name="duration" type="tns:DurationType" />
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="ThumbnailInfoType">
        <xs:sequence>
            <xs:element name="timeCode" type="tns:TimeCodeType" />
            <xs:element name="uri" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
```

JobStatusListDocument

```
    <xs:element name="JobStatusListDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty

    <xs:complexType name="JobStatusListType">
        <xs:sequence>
            <xs:element name="hits" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="job" type="tns:JobStatusType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <!-- Deprecated -->
```

SimpleTimelineDocument

```
    <xs:element name="SimpleTimelineDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" t
    <xs:complexType name="SimpleTimelineType">
        <xs:sequence>
            <xs:element name="destinationURI" type="xs:string"/>
            <xs:element name="source" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="sequence" type="xs:int"/>             <!-- For guaranteeing
                        <xs:choice>                                             <!-- Use URI when ta
                            <xs:element name="uri" type="xs:anyURI"/>
                            <xs:element name="siteId" type="tns:SiteIdType"/>
                        </xs:choice>
                        <xs:element name="interval"
                                    type="tns:TimeIntervalType"/>                   <!-- Interva
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
```

TimelineDocument

```
    <xs:element name="TimelineDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="TimelineType">
        <xs:sequence>
            <xs:element name="destination" type="tns:ShapeType"/>
            <xs:element name="track">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="source" minOccurs="0" maxOccurs="unbounded">
                            <xs:complexType>
                                <xs:sequence>
```

```
                                    <xs:element name="sequence" type="xs:int"/>             <!-- For
                                    <xs:choice>                                            <!-- Use
                                        <xs:element name="uri" type="xs:anyURI"/>
                                        <xs:element name="siteId" type="tns:SiteIdType"/>
                                    </xs:choice>
                                    <xs:element name="track" type="xs:string"/>            <!-- Whi
                                    <xs:element name="interval"
                                        type="tns:TimeIntervalType"/>                  <!-- Interva
                                    <xs:element name="transition"
                                        type="tns:TimeCodeType" minOccurs="0"/>        <!-- Length
                                    <xs:element name="effect"
                                        type="xs:string" minOccurs="0"/>               <!-- Transit

                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:sequence>
                    <xs:attribute name="index" type="xs:string"/>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <!-- Types used for indexing files on tape and other media where seeking is very expensive -->
    <xs:complexType name="PartialFileRandomIndexType">
        <xs:sequence>
            <xs:element name="packet" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:attribute name="pts" type="xs:long"/>            <!-- In MediaComponentType
                    <xs:attribute name="dts" type="xs:long"/>            <!-- In MediaComponentType
                    <xs:attribute name="offset" type="xs:unsignedLong"/>
                    <xs:attribute name="length" type="xs:unsignedInt"/>
                    <xs:attribute name="duration" type="xs:unsignedInt"/> <!-- In MediaComponentType
                    <xs:attribute name="stream" type="xs:unsignedByte"/>  <!-- References MediaCompo
                    <xs:attribute name="isKeyFrame" type="xs:boolean"/>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="PartialFileDVDescriptorType">
        <xs:sequence>
            <xs:element name="frameSize" type="xs:unsignedInt"/>
            <xs:element name="frameCount" type="xs:unsignedInt"/>
        </xs:sequence>
    </xs:complexType>
```

PartialFileDescriptorDocument

```
    <xs:element name="PartialFileDescriptorDocument" type="tns:PartialFileDescriptorType"/>
    <xs:complexType name="PartialFileDescriptorType">
        <xs:sequence>
            <xs:element name="label" type="xs:string" minOccurs="0"/>

            <xs:element name="transcoderVersion" type="xs:string" minOccurs="0"/>

            <!-- Corresponds to StartTimecode in TimecodeComponent in MXF -->
            <xs:element name="startTimecode" type="xs:long" minOccurs="0"/>
```

```
            <!-- Corresponds to RoundedTimeBase in TimecodeComponent in MXF -->
            <xs:element name="roundedTimeBase" type="xs:int" minOccurs="0"/>

            <!-- Corresponds to DropFrame in TimecodeComponent in MXF -->
            <xs:element name="dropFrame" type="xs:boolean" minOccurs="0"/>

            <xs:element name="containerComponent" type="tns:ContainerComponentType" minOccurs="0"/>
            <xs:element name="audioStream" type="tns:AudioComponentType" minOccurs="0" maxOccurs="unb
            <xs:element name="videoStream" type="tns:VideoComponentType" minOccurs="0" maxOccurs="unb
            <xs:choice>
                <xs:element name="dvDescriptor" type="tns:PartialFileDVDescriptorType"/>    <!-- Used
                <xs:element name="index" type="tns:PartialFileRandomIndexType"/>            <!-- Used
            </xs:choice>
        </xs:sequence>
    </xs:complexType>

    <!-- Types for requesting a byte range for a time interval in a PartialFileDescriptorDocument --
```

ByteRangeRequestDocument

```
    <xs:element name="ByteRangeRequestDocument" type="tns:ByteRangeRequestType"/>
    <xs:complexType name="ByteRangeRequestType">
        <xs:sequence>
            <xs:element name="interval" type="tns:TimeIntervalType"/>
            <xs:element name="descriptor" type="tns:PartialFileDescriptorType"/>
        </xs:sequence>
    </xs:complexType>
```

ByteRangeResponseDocument

```
    <xs:element name="ByteRangeResponseDocument" type="tns:ByteRangeResponseType"/>
    <xs:complexType name="ByteRangeResponseType">
        <xs:sequence>
            <xs:element name="start" type="xs:unsignedLong"/>
            <xs:element name="end" type="xs:unsignedLong"/>
        </xs:sequence>
    </xs:complexType>

    <!-- XML types for dealing with DMS-1 metadata in MXF -->
    <xs:simpleType name="InstanceUID">
        <xs:restriction base="xs:hexBinary"/>
    </xs:simpleType>
    <xs:simpleType name="ULType">   <!-- "UL" seems a bit short, so I'm picking ULType -->
        <xs:restriction base="xs:hexBinary"/>
    </xs:simpleType>
    <xs:complexType name="MDObjectBase">
        <xs:attribute name="name" type="xs:string" use="optional"/>
        <xs:attribute name="ul" type="tns:ULType" use="required"/>
    </xs:complexType>
    <xs:complexType name="MDObjectWeakReference">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:MDObjectBas
                <xs:sequence>
                    <xs:element name="target" type="tns:InstanceUID"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

```
    <xs:complexType name="MDObjectLeaf">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:MDObjectBas
                <xs:sequence>
                    <xs:choice>
                        <xs:element name="hexValue" type="xs:hexBinary"/>
                        <xs:element name="stringValue" type="xs:string"/>
                    </xs:choice>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="MDObjectNode">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:MDObjectBas
                <xs:sequence>
                    <xs:element name="leaf" type="tns:MDObjectLeaf" minOccurs="0" maxOccurs="unbounde
                    <xs:element name="child" type="tns:MDObjectNode" minOccurs="0" maxOccurs="unbound
                    <xs:element name="strongReference" type="tns:MDObjectStrongReference" minOccurs="
                    <xs:element name="weakReference" type="tns:MDObjectWeakReference" minOccurs="0" m
                </xs:sequence>
                <xs:attribute name="instanceUid" type="tns:InstanceUID" use="optional"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="MDObjectStrongReference">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:MDObjectNod
                <xs:attribute name="referenceUl" type="tns:ULType" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="MDSegment">
        <xs:sequence>
            <xs:element name="interval" type="tns:TimeIntervalType"/>
            <xs:element name="dms1Framework" type="tns:MDObjectNode"/>  <!-- DMS-1 scene or clip fra
        </xs:sequence>
    </xs:complexType>
```

DMS1Document

```
    <xs:element name="DMS1Document" type="tns:DMS1Type"/>
    <xs:complexType name="DMS1Type">
        <xs:sequence>
            <xs:element name="partition" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="materialPackage" minOccurs="0" maxOccurs="unbounded">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element name="staticTrack" minOccurs="0" maxOccurs="unbounded
                                        <xs:complexType>
                                            <xs:sequence>
                                                <xs:element name="dms1Framework" type="tns:MDObjectNo
                                            </xs:sequence>
                                        </xs:complexType>
                                    </xs:element>
```

```
                                        <xs:element name="eventTrack" minOccurs="0" maxOccurs="unbounded"
                                            <xs:complexType>
                                                <xs:sequence>
                                                    <xs:element name="segment" type="tns:MDSegment" minO
                                                </xs:sequence>
                                            </xs:complexType>
                                        </xs:element>
                                    </xs:sequence>
                                </xs:complexType>
                            </xs:element>
                        </xs:sequence>
                        <xs:attribute name="offset" type="xs:long"/>
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>

        <xs:simpleType name="UMIDType">
            <xs:restriction base="xs:hexBinary">
                <!-- UMIDs are 256 bits -->
                <xs:minLength value="32"/>
                <xs:maxLength value="32"/>
            </xs:restriction>
        </xs:simpleType>

        <xs:complexType name="MXFTimestampType">
            <xs:sequence>
                <!-- Corresponds to mxfTimestamp in libMXF -->
                <xs:element name="year" type="xs:short"/>
                <xs:element name="month" type="xs:unsignedByte"/>
                <xs:element name="day" type="xs:unsignedByte"/>
                <xs:element name="hour" type="xs:unsignedByte"/>
                <xs:element name="min" type="xs:unsignedByte"/>
                <xs:element name="sec" type="xs:unsignedByte"/>
                <xs:element name="qmsec" type="xs:unsignedByte"/>
            </xs:sequence>
        </xs:complexType>

        <xs:complexType name="PackageTrackType">
            <xs:sequence>
                <xs:element name="name" type="xs:string"/>

                <!-- Physical track ID, like audio channels -->
                <xs:element name="number" type="xs:int"/>

                <xs:element name="isPicture" type="xs:boolean"/>

                <xs:element name="is50FPS" minOccurs="0" maxOccurs="1" type="xs:boolean"/>

                <xs:element name="frameRate" minOccurs="0" maxOccurs="1" type="tns:FrameRateType" />

                <!-- Length of track in edit units -->
                <xs:element name="length" type="xs:int"/>
            </xs:sequence>
        </xs:complexType>

        <xs:complexType name="MaterialPackageTrackType">
            <xs:complexContent>
```

```
            <xs:extension base="tns:PackageTrackType">
                <xs:sequence>
                    <xs:element name="sourcePackageID" type="tns:UMIDType"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="TapePackageTrackType">
        <xs:complexContent>
            <xs:extension base="tns:PackageTrackType">
                <xs:sequence>
                    <xs:element name="trackID" type="xs:int"/>
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="PackageType">
        <xs:sequence>
            <xs:element name="umid" type="tns:UMIDType"/>
            <xs:element name="timestamp" type="tns:MXFTimestampType"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MaterialPackageType">
        <xs:complexContent>
            <xs:extension base="tns:PackageType">
                <xs:sequence>
                    <xs:element name="track" type="tns:MaterialPackageTrackType" minOccurs="1" maxOc
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <xs:complexType name="TapePackageType">
        <xs:complexContent>
            <xs:extension base="tns:PackageType">
                <xs:sequence>
                    <xs:element name="track" type="tns:TapePackageTrackType" minOccurs="1" maxOccurs=
                </xs:sequence>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>

    <!-- Needed for muxing OpAtom -->
    <xs:complexType name="MXFPackagesType">
        <xs:sequence>
            <xs:element name="materialPackage" type="tns:MaterialPackageType"/>
            <xs:element name="tapePackage" type="tns:TapePackageType" minOccurs="0"/>

            <!-- Material package track to link to file package track, like "V1" -->
            <xs:element name="materialTrackName" type="xs:string"/>

            <!-- Tape package track to link file package track to, like "V1".
                 Must be set if tapePackage is set.
            -->
            <xs:element name="tapeTrackName" type="xs:string" minOccurs="0"/>
```

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

    <!--- START METADATA TYPES -->

    <xs:complexType name="KeyValuePairType">
        <xs:sequence>
            <xs:element name="key" minOccurs="1" maxOccurs="1" type="xs:string"/>
            <xs:element name="value" minOccurs="1" maxOccurs="1" type="xs:string"/>
        </xs:sequence>
    </xs:complexType>

    <!--
         MetadataReferenceType is only used when posting new metadata.
         They only need to be unique within the same MetadataDocument.
         The middleware will transform them to proper UUIDs, unless they already formatted as UUIDs p
     -->
    <xs:simpleType name="MetadataReferenceType">
        <xs:restriction base="xs:string"/>
    </xs:simpleType>

    <xs:complexType name="MetadataGroupValueType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="referenced" type="tns:MetadataReferencedType" minOccurs="0" maxOccurs="
            <xs:choice>
                <xs:sequence>
                    <xs:element name="field" type="tns:MetadataFieldValueType" minOccurs="0" maxOccu
                    <xs:element name="group" type="tns:MetadataGroupValueType" minOccurs="0" maxOccu
                </xs:sequence>
                <xs:sequence>
                    <xs:element name="reference" type="tns:MetadataReferenceType" minOccurs="1" maxO
                </xs:sequence>
            </xs:choice>
            <xs:element name="data" minOccurs="0" maxOccurs="unbounded" type="tns:KeyValuePairType"/>
        </xs:sequence>
        <xs:attributeGroup ref="tns:MetadataValueAttributes"/>
    </xs:complexType>

    <xs:complexType name="MetadataFieldValueType">
        <xs:sequence>
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="id" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="referenced" type="tns:MetadataReferencedType" minOccurs="0" maxOccurs="
            <xs:choice>
                <xs:element name="value" type="tns:MetadataValueType" minOccurs="0" maxOccurs="unbou
                <xs:element name="reference" type="tns:MetadataReferenceType" minOccurs="1" maxOccurs
            </xs:choice>
            <xs:element name="data" minOccurs="0" maxOccurs="unbounded" type="tns:KeyValuePairType"/>
            <xs:element name="type" minOccurs="0" maxOccurs="1" type="tns:MetadataFieldType"/>
        </xs:sequence>
        <xs:attributeGroup ref="tns:MetadataValueAttributes"/>
        <xs:attribute name="track" type="xs:string" use="optional"/>
        <xs:attribute name="inheritance" type="xs:string" use="optional"/>
    </xs:complexType>
```

```
    <xs:complexType name="MetadataReferencedType">
        <xs:attribute name="id" type="xs:string" use="required"/>
        <xs:attribute name="uuid" type="xs:string" use="required"/>
        <xs:attribute name="type" type="xs:string" use="required"/>
    </xs:complexType>

    <xs:complexType name="MetadataValueType">
        <xs:simpleContent>
            <xs:extension base="xs:string">
                <xs:attributeGroup ref="tns:MetadataValueAttributes"/>
                <xs:attribute name="lang" type="xs:language" use="optional"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>

    <xs:attributeGroup name="MetadataValueAttributes">
        <xs:attribute name="uuid" type="tns:MetadataReferenceType" use="optional"/>
        <xs:attribute name="user" type="xs:string" use="optional"/>
        <xs:attribute name="timestamp" type="xs:dateTime" use="optional"/>
        <xs:attribute name="change" type="tns:SiteIdType" use="optional"/>
        <xs:attribute name="conflict" type="xs:boolean" use="optional"/>
        <xs:attribute name="mode"  type="tns:MetadataModeType" use="optional"/>
    </xs:attributeGroup>

    <xs:simpleType name="MetadataModeType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="add"/>
            <xs:enumeration value="remove"/>
        </xs:restriction>
    </xs:simpleType>
```

MetadataDocument

```
    <xs:element name="MetadataDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="MetadataType">
        <xs:sequence maxOccurs="1" minOccurs="1">
            <xs:element name="revision" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="template" type="xs:string" minOccurs="0" maxOccurs="1"/> <!-- obsolete
            <xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="timespan" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="field" type="tns:MetadataFieldValueType" minOccurs="0" maxO
                        <xs:element name="group" type="tns:MetadataGroupValueType" minOccurs="0" maxO
                    </xs:sequence>
                    <xs:attribute name="start" type="xs:string" />
                    <xs:attribute name="end" type="xs:string" />
                    <xs:attribute name="base" type="xs:string" />
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <!-- END METADATA TYPES -->

    <!-- START METADATA FIELD TYPE TYPES -->

    <xs:simpleType name="MetadataFieldTypeType">
```

```
        <xs:restriction base="xs:string">
            <xs:enumeration value="date"/>
            <xs:enumeration value="date-noindex"/>
            <xs:enumeration value="date-sortable"/>
            <xs:enumeration value="float"/>
            <xs:enumeration value="float-noindex"/>
            <xs:enumeration value="float-sortable"/>
            <xs:enumeration value="integer"/>
            <xs:enumeration value="integer-noindex"/>
            <xs:enumeration value="integer-sortable"/>
            <xs:enumeration value="string"/>
            <xs:enumeration value="string-sortable"/>
            <xs:enumeration value="string-exact"/>
            <xs:enumeration value="string-exact-sortable"/>
            <xs:enumeration value="string-noindex"/>
            <xs:enumeration value="boolean"/>
            <xs:enumeration value="boolean-noindex"/>
            <xs:enumeration value="timeCode"/>
            <xs:enumeration value="timeCode-noindex"/>

        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="MetadataFieldIndexType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="noindex"/>
            <xs:enumeration value="index"/>
            <xs:enumeration value="extend"/>
        </xs:restriction>
    </xs:simpleType>

    <xs:complexType name="MetadataFieldFloatType">
        <xs:sequence>
            <xs:element name="minInclusive" type="xs:double" minOccurs="0" maxOccurs="1"/>
            <xs:element name="maxInclusive" type="xs:double" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MetadataFieldIntegerType">
        <xs:sequence>
            <xs:element name="minInclusive" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="maxInclusive" type="xs:int" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="MetadataFieldStringType">
        <xs:sequence>
            <xs:element name="minLength" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="maxLength" type="xs:int" minOccurs="0" maxOccurs="1"/>
            <xs:element name="pattern" type="xs:string" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>
```

MetadataFieldDocument

```
    <xs:element name="MetadataFieldDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" ty
    <xs:complexType name="MetadataFieldType">
        <xs:sequence>
```

```
            <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="schema" type="tns:MetadataSchemaElementType" minOccurs="0" maxOccurs="1
            <xs:element name="type" type="tns:MetadataFieldTypeType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="index" type="tns:MetadataFieldIndexType" minOccurs="0" maxOccurs="1"/>
            <xs:element name="fullText" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
            <xs:choice minOccurs="0" maxOccurs="1">
                <xs:element name="floatRestriction" type="tns:MetadataFieldFloatType"/>
                <xs:element name="integerRestriction" type="tns:MetadataFieldIntegerType"/>
                <xs:element name="stringRestriction" type="tns:MetadataFieldStringType"/>
            </xs:choice>
            <xs:element name="data" minOccurs="0" maxOccurs="unbounded" type="tns:KeyValuePairType"/>
            <xs:element name="values" minOccurs="0" maxOccurs="1" type="tns:SimpleMetadataType"/>
            <xs:element name="defaultValue" type="xs:string" minOccurs="0" maxOccurs="1"/>
            <xs:element name="externalId" type="xs:string" minOccurs="0" maxOccurs="unbounded" />
            <xs:element name="origin" type="xs:string" minOccurs="0" maxOccurs="1" />
        </xs:sequence>
        <xs:attribute name="system" type="xs:string" use="optional"/>
        <xs:attribute name="sortable" type="xs:boolean" use="optional"/>
        <xs:attribute name="inheritance" type="xs:string" use="optional"/>
    </xs:complexType>

    <!-- END METADATA FIELD TYPE TYPES -->

    <xs:complexType name="SimpleMetadataType">
        <xs:sequence>
            <!-- TODO: use tns:KeyValuePairType instead -->
            <xs:element name="field" minOccurs="0" maxOccurs="unbounded" >
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="key" type="xs:string" />
                        <xs:element name="value" type="xs:string" />
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <!-- Decode/encode permissions and license document. Wildcards are allowed.
         Example how a license document allowing any input to be transcoded to H.264+MP3 might look
             <TranscoderLicenseStatusDocument>
                 <mayDecode>*</mayDecode>
                 <mayEncode>*mp3*</mayEncode>
                 <mayEncode>*264*</mayEncode>
             </TranscoderLicenseStatusDocument>
    -->
```

TranscoderLicenseStatusDocument

```
    <xs:element name="TranscoderLicenseStatusDocument" xmlns:tns="http://xml.vidispine.com/schema/vi
    <xs:complexType name="TranscoderLicenseStatusType">
        <xs:sequence>
            <xs:element name="mayDecode" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="mayEncode" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="production" type="xs:boolean" minOccurs="0" maxOccurs="1"/>
        </xs:sequence>
    </xs:complexType>

    <!-- Returned by the transcoder's duration resource -->
```

DurationDocument

```
    <xs:element name="DurationDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine" type="t
    <xs:complexType name="DurationType">
        <xs:sequence>
            <!-- duration = max_x{ptsInterval.end_x} - min_x{ptsInterval.start_x} -->
            <xs:element name="duration" type="tns:TimeCodeType"/>

            <!-- Information about the individual video streams
                 duration = stream.end - stream.start
            -->
            <xs:element name="stream" type="tns:StreamIntervalType" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="StreamIntervalType">
        <xs:complexContent>
            <xs:extension xmlns:tns="http://xml.vidispine.com/schema/vidispine" base="tns:TimeInterva
                <!-- AKA essenceStreamId -->
                <xs:attribute name="index" type="xs:unsignedShort" use="required"/>

                <!-- number of frames decoded -->
                <xs:attribute name="numberOfFrames" type="xs:int" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
```

TranscoderVersionDocument

```
    <xs:element name="TranscoderVersionDocument" xmlns:tns="http://xml.vidispine.com/schema/vidispine
    <xs:complexType name="TranscoderVersionType">
        <xs:sequence>
            <xs:element name="version" type="xs:string" minOccurs="1" maxOccurs="1" />
            <xs:element name="submodule" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="version" type="xs:string" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="info" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="feature" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="name" type="xs:string" minOccurs="1" maxOccurs="1"/>
                        <xs:element name="version" type="xs:string" minOccurs="0" maxOccurs="1"/>
                        <xs:element name="info" type="tns:KeyValuePairType" minOccurs="0" maxOccurs="
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>


</xs:schema>
```

CHAPTER

SEVENTEEN

RELEASE HIGHLIGHTS

This page contains an overview of the new features in each release. For a full listing of the features, bug fixes and upgrade notes, please see the release notes (http://www.vidispine.com/partner/my-documentation).

17.1 4.3.3

17.1.1 Bug fixes

- Encrypt credentials in thumbnail resource URIs.
- Storage rule supervisor repeatedly restarting due to a long running transaction, causing copy jobs not to start.
- High JMS connection usage from storage supervisor.
- Slow file system metadata updates causing growing imports to end early (Tunable growing file timeout.)
- Slow library search due to rollbacks.
- Cached search bigtext entries not always removed.
- Solr searchers keeping GlassFish from shutting down.
- Quote characters in a collection name generates broken access DOT graph.
- Checksum not computed for file with %2B in name.

17.1.2 Server fixes

- Checksum fails to compute for large files with vidispine-server.
- No version available from vidispine-server –version.
- Don't put expired messages on the DLQ.

17.1.3 Transcoder fixes

- Interlace flag not working for H.264.
- Incorrect subclipping of MXF OP1a with index in footer.
- Incorrect bit depth for AES3.
- 32bit lpcm detected as 16bit.
- Burnt in timecode text offset from text box.

17.2 4.3.2

This is a bug fix release with a large number of fixes. Notably:

- Cached search documents not being removed from the big text table, causing it to grow over time.
- The periodic update of a large library could cause library API requests and index updates to halt due to a locking issue.
- New Relic users will now see web requests with transaction names that match the path used in the request, instead of the automatic name assigned by New Relic which tends to group requests to different endpoints together.
- Speed ups when faceting on many fields with many matching terms.
- When using SolrCloud the connection manager could abort long running requests, typically causing updates to Solr to fail.
- Various bug fixes and improvements.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.3 4.3.1

17.3.1 RHEL 7 support

Red Hat Enterprise Linux 7 is now a supported. You may have already seen some EL7 RPMs in 4.3, but now the packaging of the transcoder has also been completed making EL7 the latest addition to the list of supported operating system.

17.3.2 System overview

The metrics page available on the admin port when running standalone Vidispine has been redesigned. It now also features graphs of some of the metrics exposed via StatsD and the metrics admin resource.

17.3.3 Other

- Fixed incorrect role on `PUT /collection/(collection-id)/metadata`.
- JavaScript notifications now work on MySQL.
- WAITING jobs could cause job metrics to become incorrect.
- Various bug fixes and improvements.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.4 4.3

17.4.1 Standalone deployment

Vidispine can now be run without the need of an application server. See *Standalone Vidispine*.

17.4.2 Group search

It is now possible to *query field groups* when searching for items or collections.

```
<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <group>
    <name>movie_info</name>
    <field>
      <name>movie_name</name>
      <value>StarWars</value>
    </field>
    <field>
      <name>episode_no</name>
      <value>1</value>
    </field>
  </group>
</ItemSearchDocument>
```

17.4.3 Other

- Support for *automatic removal* of old jobs.

17.5 4.2.10

17.5.1 Bug fixes

- Storage rule supervisor repeatedly restarting due to a long running transaction, causing copy jobs not to start.
- High JMS connection usage from storage supervisor.
- Slow file system metadata updates causing growing imports to end early (Tunable growing file timeout.)
- Slow library search due to rollbacks.
- Cached search bigtext entries not always removed.
- Solr searchers keeping GlassFish from shutting down.
- Quote characters in a collection name generates broken access DOT graph.
- Checksum not computed for file with %2B in name.

17.5.2 Transcoder fixes

- Interlace flag not working for H.264.
- Incorrect subclipping of MXF OP1a with index in footer.
- Incorrect bit depth for AES3.
- 32bit lpcm detected as 16bit.
- Burnt in timecode text offset from text box.

17.6 4.2.9

This is a bug fix release with a large number of fixes. Notably:

- Cached search documents not being removed from the big text table, causing it to grow over time.
- The periodic update of a large library could cause library API requests and index updates to halt due to a locking issue.
- New Relic users will now see web requests with transaction names that match the path used in the request, instead of the automatic name assigned by New Relic which tends to group requests to different endpoints together.
- Speed ups when faceting on many fields with many matching terms.
- When using SolrCloud the connection manager could abort long running requests, typically causing updates to Solr to fail.
- Various bug fixes and improvements.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.7 4.2.8

This is a minor bug fix release that also adds two new job parameters.

New job parameters:

- `cerifyPriority` - To set the *priority of jobs in Cerify*.
- `checksumMode` - To have checksums for imported items computed during the transfer step. See *Checksum on file transfer*.

Fixes:

- Storage not marked as offline if MatrixStore vault goes offline.
- Poster format settings not working.
- Installer ignoring required but failing HTTP requests.
- Certain transcodes/render jobs crashing the transcoder.
- Various bug fixes and improvements.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.8 4.2.7

This is a minor bug fix release. See the release notes (http://www.vidispine.com/partner/my-documentation) for details.

17.9 4.2.6

17.9.1 Security notice

Apache POI (https://poi.apache.org/) has been updated from version 3.8 to 3.11 (https://poi.apache.org/changes.html) to mitigate XXE (https://www.owasp.org/index.php/XML_External_Entity_%28XXE%29_Processing) vulnerabilities (CVE-2014-3529 (http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2014-3529) and CVE-2014-3574 (http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2014-3574)) when extracting metadata from Office documents. This metadata extraction is only done if enabled using `parseFileMetadata`.

XXE has also been disabled in the XML parser used by Vidispine, to address vulnerabilities when parsing XML API requests and sidecar files for example.

17.9.2 Performance improvements

This release contains a number of performance improvements.

For the API:

- Faster collection update and delete.
- Faster group update and delete.
- Faster merged access retrieval.
- Faster storage-rule creation.

For items:

- Faster poster generation.

17.9.3 Changed defaults

Multi-site processing is now disabled by default. See `disableSiteCrunching`.

17.9.4 Other

- Indexing of items with large metadata text fields could cause indexing to halt. This has now been fixed.
- Field groups in the item metadata are now indexed less often.
- Additional audio and video settings from the transcode preset are now supported when rendering or conforming.
- More control over burnt-in subtitle placements. See *Subtitle metadata fields and groups*.
- Various bug fixes and improvements.

17.10 4.2.5

17.10.1 Temporary transcoder path

It is now possible to use another directory for *temporary files for the transcoder*. This is controlled via the `<tempPath>` element in the transcoder. This element is controlled via *local configuration file* or *transcoder resource definition* or by changing the configuration for *all transcoders*.

17.10.2 Optional hit count

The *hit count* can now be omitted from the results when searching. This can be done to reduce the response time of search requests.

```
GET API/item?count=false
```

17.10.3 Other

- Buckets with files in subfolders are now properly scanned and will now appear on your S3 storages.
- *Proxy services* can be used for cloud licensing.
- A number of issues with the multi-site sync have been fixed.
- Various bug fixes and improvements.

17.11 4.2.4

17.11.1 FTP connection pooling

If you perform a large number of imports or exports over high latency FTP connections then you can now create a *FTP connection pool* to reduce the overhead of establishing a new connection each time.

```
PUT /configuration/ftp-pool
Content-Type: application/xml

<FtpPoolConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool>
    <minSize>0</minSize>
    <maxSize>-1</maxSize>
    <evictionInterval>30000</evictionInterval>
    <minIdleTime>60000</minIdleTime>
  </pool>
<FtpPoolConfigurationDocument/>
```

17.11.2 Find collections with specific items

An `item` subquery can now be used when searching for collections to find collections based on the items that they contain.

```
PUT /collection
Content-Type: application/xml

<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <operator operation="OR">
    <field>
      <name>title</name>
      <value>Peach</value>
    </field>
    <item>
      <field>
        <name>title</name>
        <value>Peach</value>
```

```
      </field>
    </item>
  </operator>
</ItemSearchDocument>
```

See *Searching for collections with specific items*.

17.11.3 Transcoder transfer and hash computation

Available transcoder with direct file access to media can be used to compute hash sums of files, or to do filesystem-to-filesystem transfers. This will offload the application server.

To enable this, use the configuration variables `enableTranscoderHashing` and `enableTranscoderTransfer`.

17.11.4 Database purging

Automatic routines for trimming two of the largest Vidispine tables are now included. For information about how to enable this, see *Database purging*.

17.12 4.2.3

17.12.1 StatsD metrics

Metrics related to operations performed by both Vidispine and the transcoders can now be exposed using the *StatsD* protocol. It is also possible to access the Vidispine metric statistics using *JMX*.

```
$ node stats.js config.js
17 Dec 12:23:31 - reading config file: config.js
17 Dec 12:23:31 - server is up
17 Dec 12:23:31 - DEBUG: Loading backend: ./backends/graphite
17 Dec 12:23:34 - DEBUG: vs.job.total.aborted:99|g
17 Dec 12:23:34 - DEBUG: vs.job.total.aborted_pending:0|g
17 Dec 12:23:34 - DEBUG: vs.job.total.failed_total:520|g
17 Dec 12:23:34 - DEBUG: vs.job.total.finished:50491|g
17 Dec 12:23:34 - DEBUG: vs.job.total.finished_warning:3|g
17 Dec 12:23:34 - DEBUG: vs.job.total.ready:0|g
17 Dec 12:23:34 - DEBUG: vs.job.total.started:1|g
17 Dec 12:23:34 - DEBUG: vs.job.total.waiting:0|g
17 Dec 12:23:34 - DEBUG: vs.service.load.5:0.02|g
17 Dec 12:23:34 - DEBUG: vs.service.load.60:0.02|g
...
```

17.12.2 Multithreaded transcoder pipeline

The decoding part of the transcoder is now multithreaded for I-frame-only content. This means that for content such as ProRes, D10/IMX, etc, you will see a speed-up, especially if the input material is in high resolution.

17.12.3 FileCatalyst transfers

FileCatalyst is now available as a transfer method between storage locations. The Vidispine application acts as a FileCatalyst client which can communicate to FileCatalyst servers for transferring files.

In order to register a FileCatalyst server for a storage, add a new transfer method to the storage.

```
<method>
  <uri>filecatalyst://fc:s3cret@localhost:2100/incoming/</uri>
  <type>TRANSFER</type>
</method>
```

For more information, see *FileCatalyst Integration*.

17.12.4 StorNext file information

For files residing on a Quantum StorNext file system, Vidispine can now show metadata on the file. In order to use this, enable web services on StorNext and add a HSM method to the storage.

```
<method>
  <uri>stornext://webservice:webservice@localhost:81/stornext/snfs/</uri>
  <type>HSM</type>
</method>
```

For more information, see *StorNext Integration*.

17.12.5 Standalone metadata

It is now possible to create *standalone documents* with arbitrary metadata. If you are using *global metadata* but need to store a large amount of data, leading to a large metadata documents, then consider splitting it up into smaller documents, for example by entity or group of entities.

```
PUT API/document/company_a

<MetadataDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <timespan start="-INF" end="+INF">
    ...
  </timespan>
</MetadataDocument>
```

17.12.6 Filters and facets

Search *filters* have been added to replace the facet filters. They support arbitrary queries compared to facet filters that only allow a single field to be queried.

Filters can also be excluded from certain facets. This can be used to reduce the number of search requests need to display search pages that uses multiple facets and multiple drill down options.

```
PUT API/item
Content-Type: application/xml

<ItemSearchDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <filter name="typeFilter">
    <field>
      <name>mediaType</name>
      <value>audio</value>
```

```
    </field>
  </filter>
  <facet count="true">
    <field>mediaType</field>
    <exclude>typeFilter</exclude>
  </facet>
</ItemSearchDocument>

<ItemListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <hits>1</hits>
  <item end="+INF" id="VX-361763" start="-INF">
    <timespan end="+INF" start="-INF"/>
  </item>
  <facet>
    <field>mediaType</field>
    <count fieldValue="none">1867</count>
    <count fieldValue="image">33</count>
    <count fieldValue="video">10</count>
    <count fieldValue="audio">1</count>
    <count fieldValue="data">1</count>
  </facet>
</ItemListDocument>
```

17.12.7 Other

- It is no longer necessary to use the application server's `/tmp` directory to store output files for Azure, S3, FTP destinations. Instead, this can be handled using *segment files* on the destination storage.
- The timestamp handling for generating MP4/H.264 files have been rewritten. This means that proxy files are frame accurate without without the previous tweaks (`useDTSmode` et al).

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.13 4.2.2

17.13.1 Thumbnails on cloud storages

Thumbnails can now be stored on cloud storages such as Amazon S3 and Azure. Thumbnails will be stored using *one file per thumbnail*.

```
<ResourceDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <thumbnail>
    <path>direct+azure://:+kLZrqckLZrqckLZrqckLZrqc==@mystorage/my-container/</path>
  </thumbnail>
</ResourceDocument>
```

17.13.2 Job pools

Use *job pools* to ensure that long running low priority jobs don't block high priority jobs from running.

```
PUT /configuration/job-pool
Content-Type: application/xml
```

```
<JobPoolListDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <pool>
    <priorityThreshold>HIGH</priorityThreshold>
    <size>2</size>
  </pool>
  <pool>
    <priorityThreshold>LOWEST</priorityThreshold>
    <size>3</size>
  </pool>
</JobPoolListDocument>
```

17.13.3 Shape and file search

It is now possible to search for shapes and files, based on their key-value metadata, using the *shape search* and the *file search* resources.

```
PUT /search/shape
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ShapeSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <field>
    <name>language</name>
    <value>en</value>
  </field>
</ShapeSearchDocument>
```

17.13.4 Joins

Support for *joins* has also been added to allow for cross-entity search between items, shapes and files.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ItemSearchDocument version="2" xmlns="http://xml.vidispine.com/schema/vidispine">
  <text>peach</text>
  <shape>
    <field>
      <name>language</name>
      <value>en</value>
    </field>
  </shape>
</ItemSearchDocument>
```

17.13.5 Platform

This release brings support for:

- PostgreSQL 9.3.
- Java 7 update 67.

17.13.6 Other

- *Signiant* can now be used to transfer files between storages.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.14 4.2.1

17.14.1 WADL

A number of improvements have been made to the WADL file. Missing parameters have been added and duplicate parameters have been removed for example. It has been updated to also include:

- Parameter options.
- Markers for repeating parameters.

The WADL file can be obtained using `GET API/application.wadl`.

17.14.2 Other

- Support for copying of DTV 608/708 Closed Captions.
- Files can now also be sorted by *file extension*.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

17.15 4.2

17.15.1 API documentation

The API documentation has been moved from the Vidispine wiki into this documentation that you are now reading.

It is available online at http://apidoc.vidispine.com/latest/ and also on your local installation at `/APIdoc`.

17.15.2 Java 7

The 4.2 series now requires Java 7, specifically Java 7 update 25 as later versions have known bugs with GlassFish 3.x.

17.15.3 Efficient file I/O

The new Java 7 File API is used to reduce the number of file system operations that are used when scanning local storages.

17.15.4 Indexing

The Solr configuration now exists in the *indexing configuration*, but note that the Solr configuration properties are still supported.

This configuration can also be used to specify which fields should be included in the full text index, unless specified explicitly for a specific field.

```
PUT /configuration/indexing
Content-Type: application/xml

<IndexingConfigurationDocument xmlns="http://xml.vidispine.com/schema/vidispine">
  <solrPath>http://localhost:8088/solr</solrPath>
  <fieldDefault>
    <name>xmp_*</name>
    <fullText>false</fullText>
  </fieldDefault>
</IndexingConfigurationDocument>
```

17.15.5 Detect renamed files

Renamed files can be detected and and re-associate based on the file checksum. Enable it using the `detectRenamedFiles` storage property.

17.15.6 Platform

This release adds support for Ubuntu 14.04, Windows 2012 R2 and MySQL 5.6. At the same time, support for PostgreSQL 8.x, MySQL 5.1 and Java 1.6 has been discontinued.

17.15.7 Other

- Ability to move fields from subgroups using *schema migrations*.
- Posters can now be created in either *JPEG or PNG format*.
- Support for storage exclude filters to exclude certain files from a storage. See `excludeFilter`.
- RED GPU acceleration
- Configurable *quality level* for RED file decoding.

For the full list of changes, see the release notes (http://www.vidispine.com/partner/my-documentation).

Other sources of information

- Partner portal (http://www.vidispine.com/partner/partnerportal), including the
  - latest versions of the software (http://www.vidispine.com/partner/my-software),
  - knowledge base (http://www.vidispine.com/partner/knowledge-forum-support),
  - getting started guide (http://vidispine.tenderapp.com/kb/guides/4-vidispine-getting-started-guide), and
  - discussion forum

Other tools already available on your installation

- Selftest
- Log report
- XML Schemas (XSDs)
  - xmlSchema.xsd
  - common.xsd
- Javadoc of compiled versions of the XML Schemas, useful when writing JavaScript integration code

This copy of the documentation covers Vidispine version **4.3.3** (build **4.3.3-g28ad490-15383**). You can find other versions in the Partner Portal.

/conform

/document

/export-location

/external-id

/group

/import

/item

/javascript

/job

/jobtype

/library

/license

/log

/metadata

/metadata-field

/metadata-schema

/projection

/quota

/reindex

/relation

/resource

/scheduled-request

/search

/sequence

/shape-tag

/site

/stitch

/storage

/storage-rule

/task-definition

/transfer

/user

/version

/vidispine-logs

/{external-id-resource}

/{field-access-resource}

/{item-content-resource}

/{key-value-metadata-resource}

/{notification-entity}

/{rule-entity}

/{site-rule-entity}

/{thumbnail-resource-resource}

/{thumbnail-resource}

A

C

D

E

F

H

I

J

K

L

M

P

R

S

T

U

V

W

X

Z