

# Indexing Video & Audio Content

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ACTIVE SOLUTION

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# Overview



**Video Indexer Pipeline**

**Video Index Structure**

**Index Management Methods**

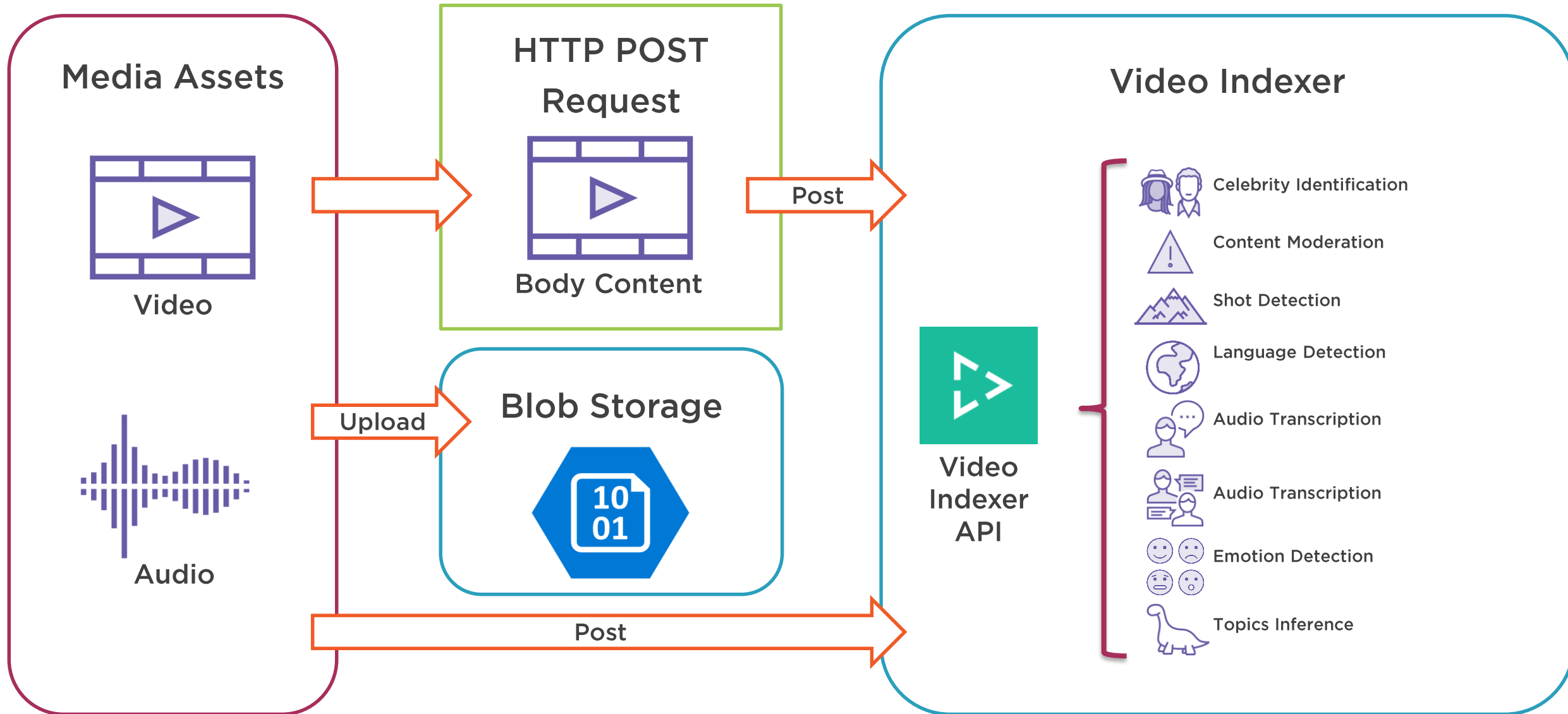
**Demo: Indexing Content using C#**

**Demo: Indexing Content using Python**

# Video Indexer Pipeline

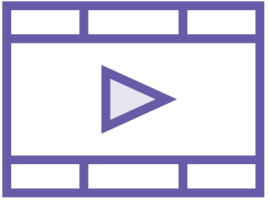
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# Video Indexer Pipeline Options



# Video Indexer Pipeline – Post Content

## Media Assets

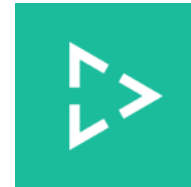


Video



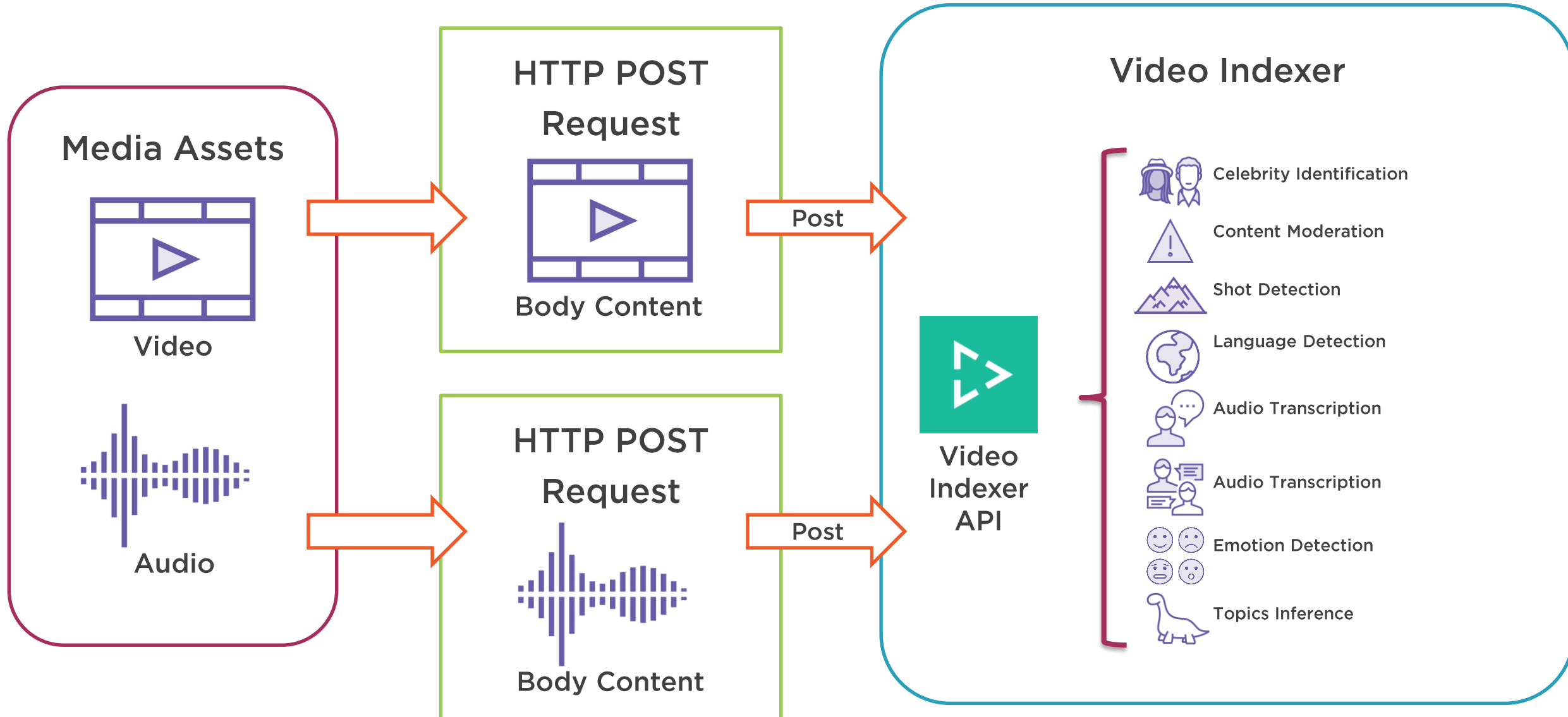
Audio

## Video Indexer

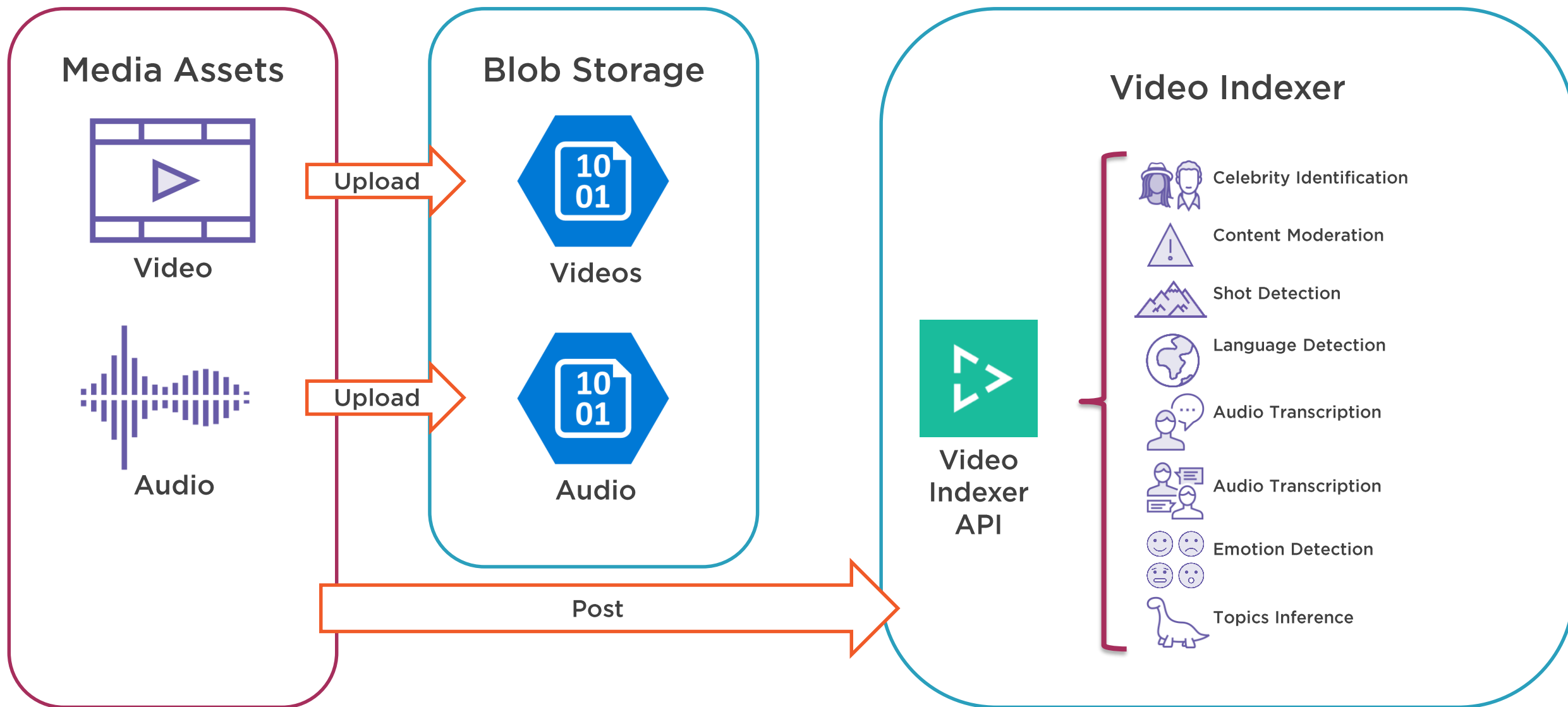


Video  
Indexer  
API

# Video Indexer Pipeline - Post Content



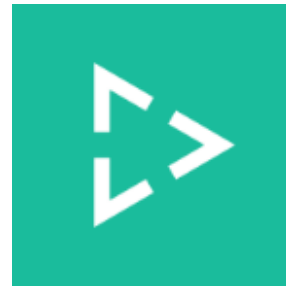
# Video Indexer Pipeline - Link to Content



# Leveraging Blob Storage Shared Access Signatures



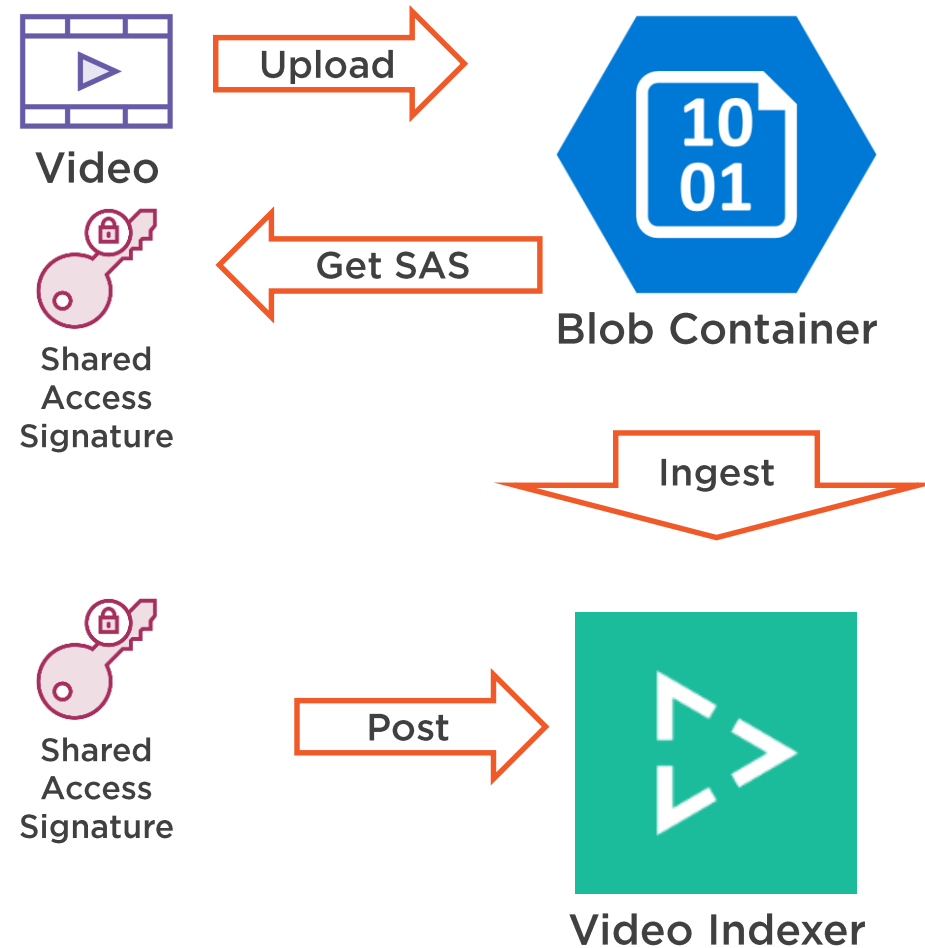
Blob Container



Video Indexer



# Leveraging Blob Storage Shared Access Signatures



# Video Index Structure

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## ◀ JSON document with media index results

```
{
  "partition": null,
  "description": null,
  "privacyMode": "Private",
  "state": "Processed",
  "accountId": "252d2747-2fd0-4586-ac1a-0df662e0e58f",
  "id": "14856c50cd",
  "name": "Test Video",
  "userName": "Alan Smith",
  "created": "2019-03-19T13:37:50.979368+00:00",
  "isOwned": true,
  "isEditable": false,
  "isBase": true,
  "durationInSeconds": 44,
  "summarizedInsights": ...,
  "videos": ...,
  "videosRanges": ...
}
```

```
"summarizedInsights": {  
  "name": "Test Video",  
  "id": "14856c50cd",  
  "privacyMode": "Private",  
  "duration": {  
    "time": "0:00:44.374",  
    "seconds": 44.4  
  },  
  "thumbnailVideoId": "14856c50cd",  
  "thumbnailId": "c3306d86-3d0a-4e51-b40f-1dbf04338537",  
  "faces": [],  
  "keywords": [...],  
  "sentiments": [...],  
  "emotions": [...],  
  "audioEffects": [...],  
  "labels": [],  
  "brands": [...],  
  "statistics": [...],  
  "topics": [...]  
},
```

◀ Insights provide a number of array structures

```
"statistics": {  
  "correspondenceCount": 0,  
  "speakerTalkToListenRatio": { "1": 1 },  
  "speakerLongestMonolog": { "1": 106 },  
  "speakerNumberOfFragments": { "1": 1 },  
  "speakerWordCount": { "1": 225 }  
},
```

## ◀ Statistics on transcribed audio and speaker dialog

```
"sentiments": [
  {
    "sentimentKey": "Neutral",
    "seenDurationRatio": 0.9296,
    "appearances": [
      {
        "startTime": "0:00:00",
        "endTime": "0:01:16.85",
        "startSeconds": 0,
        "endSeconds": 76.8
      },
      {
        "startTime": "0:01:24.27",
        "endTime": "0:01:46.765",
        "startSeconds": 84.3,
        "endSeconds": 106.8
      }
    ]
  },
  {
    "sentimentKey": "Positive",
    "seenDurationRatio": 0.0702,
    "appearances": [
      {
        "startTime": "0:01:16.85",
        "endTime": "0:01:24.27",
        "startSeconds": 76.8,
        "endSeconds": 84.3
      }
    ]
  }
],
```

## ◀ Details on detected sentiments

```
"keywords": [  
  {  
    "isTranscript": true,  
    "id": 1,  
    "name": "machine learning",  
    "appearances": [  
      {  
        "startTime": "0:00:00",  
        "endTime": "0:00:29",  
        "startSeconds": 0,  
        "endSeconds": 29  
      }  
    ]  
  },  
  {  
    "isTranscript": false,  
    "id": 2,  
    "name": "artificial intelligence",  
    "appearances": [  
      {  
        "startTime": "0:00:07.5",  
        "endTime": "0:01:15.5",  
        "startSeconds": 7.5,  
        "endSeconds": 75.5  
      }  
    ]  
  }  
],
```

◀ Keywords extracted from transcript and OCR

## ◀ Transcript created using speech recognition on audio

```
{
  "id": 3,
  "text": "These topics tend to be a very specialized field.",
  "confidence": 0.9316,
  "speakerId": 1,
  "language": "en-US",
  "instances": [
    {
      "adjustedStart": "0:00:14.28",
      "adjustedEnd": "0:00:18",
      "start": "0:00:14.28",
      "end": "0:00:18"
    }
  ]
},
{
  "id": 4,
  "text": "Many of the algorithms used for machine learning tend to be very complex.",
  "confidence": 0.9372,
  "speakerId": 1,
  "language": "en-US",
  "instances": [
    {
      "adjustedStart": "0:00:18",
      "adjustedEnd": "0:00:22.4",
      "start": "0:00:18",
      "end": "0:00:22.4"
    }
  ]
},
}
```



# Index Management Methods

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# Media Asset Indexing & Management Methods

Name	Method	Description
Upload Video	POST	Uploads the given media asset, starts indexing it and returns a new Video id.
List Videos	GET	Get a paged list of media assets and projects in the account
Re-Index Video	PUT	Re-index an existing media asset
Get Video Index	GET	Retrieve index for a specified media asset
Delete Video	DELETE	Deletes the specified media asset and all related indexing insights

# Upload Video

<https://api.videoindexer.ai/{location}/Accounts/{accountId}/Videos?name={name}&accessToken={accessToken}>

Parameter	Type	Description
location	string	Azure region hosting Video Indexer account, or “trial”
accountId	string	Account ID, globally unique identifier (GUID)
name	string	The media asset name to be used in the service
accessToken	string	API access token, requires account write authorization
privacy (optional)	string	The media asset privacy mode (Private/Public)
description (optional)	string	Description of media asset
partition (optional)	string	Partition to store media asset, used in searches
language (optional)	string	Language for transcript generation
videoUrl (optional)	string	Public URL of media asset file

# List Videos

`https://api.videoindexer.ai/{location}/Accounts/{accountId}/Videos?name={name}&accessToken={accessToken}`

Parameter	Type	Description
location	string	Azure region hosting Video Indexer account, or “trial”
accountId	string	Account ID, globally unique identifier (GUID)
accessToken	string	API access token
pageSize (optional)	integer	The number of records to be returned on each call
skip (optional)	integer	The number of records to skip when paging

# Get Video Index

[https://api.videoindexer.ai/{location}/Accounts/{accountId}/Videos/{videoid}/Index\[?language\]\[&reTranslate\]\[&accessToken\]](https://api.videoindexer.ai/{location}/Accounts/{accountId}/Videos/{videoid}/Index[?language][&reTranslate][&accessToken])

Parameter	Type	Description
location	string	Azure region hosting Video Indexer account, or “trial”
accountId	string	Account ID, globally unique identifier (GUID)
videoid	string	ID of media asset
accessToken	string	API access token, requires account write authorization
language (optional)	string	The language to translate insights to (eg. fr-FR)
reTranslate (optional)	boolean	Specifies whether to re-translate the video index if its already been translated



**PUT** [Cancel Project Render Operation \(PREVIEW\)](#)

**DELETE** [Cancel Training Model](#)

**POST** [Create Brand](#)

**POST** [Create Custom Face \(PREVIEW\)](#)

**POST** [Create Language Model](#)

**POST** [Create Person \(PREVIEW\)](#)

**POST** [Create Person Model](#)

**POST** [Create Project \(PREVIEW\)](#)

**DELETE** [Delete Brand](#)

**DELETE** [Delete Custom Face \(PREVIEW\)](#)

## Operations

[API change history](#)

The Operations API contains all the Video Indexer APIs, such as Upload video, Get insights, and other operations

[API definition](#)

## Get Video Index

Get Video Index

[Try it](#)

## Request

Request URL

**`https://api.videoindexer.ai/{location}/Accounts/{accountId}/Videos/{videoid}/Index[?language][&reTranslate][&accessToken]`**

Request parameters

<b>location</b>	string	Location indicates the Azure region to which the call should be routed See more details <a href="#">here</a>
<b>accountId</b>	string	Format - guid. Account ID is a globally unique identifier (GUID) for the account. See more details <a href="#">here</a>
<b>videoid</b>	string	The video id

# Demo



## Demo: Indexing Content using C#

- Uploading media assets to Blob storage
- Generating shared access signatures
- Indexing media assets
- Examining indexing results

# Demo



## Demo: Indexing Content using Python

- Generating shared access signatures
- Indexing media assets
- Examining indexing results



# Summary



Media asset indexing is an asynchronous process

Media assets can be posted in an HTTP request or accessed via a URL

Azure blob storage and shared access signatures can be used

Index information is returned in JSON format

Index contains arrays of detected insights information