

Cloud Infinite

Product Introduction

Product Documentation



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Product Introduction

Product Overview

Last updated : 2024-03-04 09:25:18

Cloud Infinite (CI) is a professional all-in-one image processing solution provided by Tencent Cloud. It enables users to upload, download, store, process, and recognize images. With a decade of image service experience from operating Qzone photo albums, Tencent Cloud CI offers a variety of features, such as image processing, original image protection, cross-origin resource sharing (CORS), and style preconfiguration.

Features

Basic image processing

The image upload and storage services of CI are based on Cloud Object Storage (COS), which allows you to manage files through the upload and processing APIs of COS. CI also provides a rich set of image processing features including intelligent cropping, lossless compression, watermarking, and format conversion.

Image management

Original image protection

The original image protection feature of CI protects images by limiting the access to these images only through URLs containing style names. It also embeds your images with unique tags to prevent unauthorized use of your images by other users or institutions.

Origin-pull configuration

Origin-pull enables seamless content migration from origin servers to Tencent Cloud Object Storage without interrupting access.

Domain name management

You can utilize domain name adjustment to choose whether to enable CDN acceleration, set your own custom domain names, and configure hotlink protection to prevent image traffic misdirection.

Application Scenarios

CI is applicable wherever images are required in apps and on websites.

Social networking (such as Momo and Girlfriends)

For social apps that need to handle massive user-uploaded images, CI provides a rich set of image processing

features including cropping, compression, and watermarking to fit various business scenarios.

E-commerce (such as Vipshop and MIA)

For e-commerce apps, CI provides image content detection to automatically review images uploaded by merchants and detect illegal content.

Gaming (such as Arena of Valor and Happy Poker)

When users upload custom avatars in gaming apps, CI can detect illegal and inappropriate content in real time, and offers basic processing features such as cropping and compression.

Financial services (such as WeBank and Tenpay)

For financial service apps, CI can accurately detect important information in ID documents to improve the efficiency of identity verification. It also can be used to conduct real-name verification for users.

Logistics (such as SF Express and ZTO Express)

Logistics plays an important role in the rapid development of e-commerce. However, the traditional manual recognition of waybill information is costly and inefficient. CI's intelligent waybill recognition allows for quick and accurate recognition of sender and receiver information on waybills to speed up package information input and transit.

This comprehensive image solution enables developers to provide quick image services to their users, and gives them the scalability to meet fast-changing business needs based on the elastic scheduling capability of Tencent Cloud services.

Feature Overview

Last updated : 2024-03-04 09:26:05

Cloud Infinite (CI) provides the following features:

Category	Feature	Description
Basic image processing	Scaling	Proportional scaling, scaling based on a target height and width, and more
	Cropping	Regular cropping, scaling and cropping, inscribed circle cropping, rounded corner cropping, and smart cropping
	Rotation	Regular rotation and adaptive rotation
	Format conversion	Format conversion, GIF format optimization, and progressive display
	Quality conversion	Changes the quality of images in JPG and WEBP formats
	Gaussian blur	Blurs images
	Adjusting brightness	Adjusts image brightness
	Adjusting contrast	Adjusts contrast
	Sharpening	Sharpens images
	Watermarking	Adds image watermarks and text watermarks for images
	Obtaining image information	Obtains basic image information , image EXIF information , and average hue information
	Removing metadata	Removes image metadata, including EXIF information
	Quick thumbnail template	Provides the thumbnail feature, which can quickly convert the image format, scale and crop the image, and generate a thumbnail
	Image size limiting	Limits the size of an image processed (e.g., scaled or compressed).
	Setting styles	Sets basic image processing operations as styles, so that users can directly

		use style parameters to quickly process images
Advanced features	Guetzli image compression	A visually lossless compression service, which can compress JPG and JPEG images at a high ratio to reduce the downstream traffic usage and accelerate downloads
	Image advanced compression	Allows you to easily convert images into formats that provide a high compression ratio, such as TPG and HEIF. This effectively reduces the transmission time, loading time, and the use of bandwidth and traffic.
	Abnormal image detection	Detects whether other types of suspicious files such as video streams are hidden in images
	Blind watermarking	A brand-new watermarking feature, which allows you to add a watermark to the input image information without displaying the watermark or significantly affecting the image quality. If an image is stolen, you can extract the blind watermark from the suspected image to check whether the image belongs to you.
Media processing	Video frame capturing	Captures the frames of a video at specified time points. You can customize the start time point of frame capturing, frame capturing interval, number of frames to be captured, and output image size and format to meet your diversified needs.
	Video to animated image conversion	Converts a video file into an animated image file. You can specify the video segment for conversion, frame sampling method, as well as the frame rate, size, and format of the output animated image to meet your different needs.
	Intelligent thumbnail	Intelligently analyzes the quality, brilliance, and content relevance of video frames by understanding the video content with Tencent Cloud's advanced AI technologies. Then, it extracts optimal frames to generate thumbnails to make the content more engaging.
	Audio/Video transcoding	Converts an audio/video file bitstream. It changes parameters of the source bitstream, such as codec, resolution, and bitrate, to adapt to different devices and network conditions.
	Remuxing (audio/video segmentation)	Divides an audio or video into several segments of the specified duration to improve the efficiency of post-production. It allows you to change the container format of the audio or video segments during segmentation.
	Video editing	Clips the specified segment of a video file to generate a new video, or adds a segment at the beginning or end of a video file to generate a new video
	Top speed	Makes videos smaller and clearer. It delivers a better visual experience with

	codec transcoding	guaranteed low network resource usage.
	Adaptive bitrate streaming	Generates multi-bitrate adaptive HLS or DASH target files from a single original video at one time, helping you quickly distribute video content in different network conditions
	Super resolution	Reconstructs the details and local features of a video by recognizing its content and contour so as to generate a high-resolution video image through a series of low-resolution video images
	Video enhancement	By leveraging AI technologies to comprehensively analyze and assess video content, the video enhancement feature provides details enhancement, color enhancement, SDR to HDR, and super resolution features, which improve the video quality from all aspects.
	Video montage	By leveraging the multimodal content understanding technology, the video montage feature recognizes and aggregates the video content, postures, and scenes to quickly and professionally generate highlights such as shots in games, choruses of songs, and hilarious moments in variety shows.
	Digital watermark	CI can hide images and strings in a video or image in a way they can hardly be detected or modified, without compromising the integrity and layout of the video or image. By identifying the watermark hidden in the content, you can confirm the content creator, copyright owner, and spreaders and check whether the video content is tampered with.
	Video tagging	Accurately recognizes video content and automatically outputs multidimensional content tags by analyzing the visuals, scenes, behaviors, and objects in a video based on multimodal information fusion and alignment technologies.
	Video Quality Scoring	Comprehensively analyzes the video clarity, signal-to-noise ratio, color, brightness, and other parameters and outputs a video quality score through no-reference image quality assessment
	Video metadata acquisition	You can get the metadata of media files such as videos, audios, and subtitles stored in COS, including video file's encoding format, codec, pixel format, duration, bitrate, frame rate, width, and height.
	Video/Audio splicing	Adds the specified video/audio segment at the beginning or end of a video/audio file to generate a new one
Smart voice	Text to speech	Converts text to natural-sounding and smooth speeches through advanced deep learning technology
	Speech	Recognizes a recording file and asynchronously returns the recognized text. It

	recognition	can be used for call center speech quality inspection, video subtitles generation, and meeting recording transcription.
	Voice/Sound separation	Separates the voice from the background sound in a video material to generate a new independent audio file
	Audio Noise Cancellation	Removes device noise, ambient noise, and other noises for an audio in course recording, outdoor shooting post-production, or other scenarios
Content moderation	Image moderation	Helps you effectively identify restricted content (including pornography, violation, and ad) in images. At present, CI supports automatic moderation and human moderation by professional teams to secure the platform in an all-around way.
	Video moderation	Helps you effectively identify restricted content (including pornography, violation, and ad) in videos. At present, CI supports automatic moderation and human moderation by professional teams to secure the platform in an all-around way.
	Audio moderation	Helps you effectively identify restricted content (including pornography, violation, and ad) in audios. At present, CI supports automatic moderation and human moderation by professional teams to secure the platform in an all-around way.
	Text moderation	Helps you effectively identify restricted content (that is, content that may be uncomfortable, such as pornography, violation, ad, and abuse) in text files. At present, CI supports automatic moderation and human moderation by professional teams to secure the platform in an all-around way.
File processing service	Hash calculation	Calculates the hash of a file. Currently supported hash algorithms are MD5, SHA1, and SHA256. File size limit: Sync request: Below 128 MB. Async request: Below 50 GB.
	File decompression	Decompresses .zip, .tar, .gz, or .7z packages in the cloud and dumps the extracted files to COS. File size limit: Below 5 TB.
	Multi-file zipping	Compresses multiple files into .zip, .tar, or .tar.gz format. File limit: Up to 10,000 files of less than 50 GB in total can be zipped.
Content recognition	Image recognition	Recognizes QR codes and image tags.
	Image matting	Recognizes the product entity in an image and removes background information to obtain a product material with a transparent background. It is suitable for intelligent generation of e-commerce posters, personalized product recommendation, and other features.

	Image repair	Recognizes the entity in a specified area in the image to be repaired, and intelligently fills in the image texture similar to the surrounding area through the AI algorithm. It is suitable for commercial photography post-production, social entertainment content production, and other scenarios.
	Logo recognition	Recognizes the e-commerce logo in an image, and returns the name, coordinates, and confidence score of the logo in the image
	Vehicle and license plate detection	Detects the vehicle in an image, and recognizes information such as vehicle brand, color, location, and license plate location
	OCR	Based on Tencent Cloud's industry-leading deep learning technology, the optical character recognition (OCR) feature is capable of intelligently recognizing words on images and converting them into editable text. It can be used in photo scanning, paper document digitization, e-commerce ad moderation, and many other scenarios to greatly improve the efficiency of information processing.
	Search by image	Performs feature extraction, comparison, and search on the images in an image library. It is suitable for e-commerce product search, copyright protection, and other scenarios.
	Face filter	Supports beauty filter, gender swap, age change, and face cut-out. It is suitable for many use cases, such as social entertainment, marketing, and interactive communication.
	ID card recognition	Recognizes all fields on the front and back of a second-generation Chinese ID card, including name, gender, ethnicity, date of birth, address, ID number, issuing authority, and validity period. It can also crop ID card photos and face photos, as well as warn about photographed, doctored, and photocopied images, edge and frame occlusions, temporary ID cards, and invalid validity periods.
Document processing	FacelID	Integrates the capability of liveness detection and comparison with authoritative face libraries, where a selfie video, name, and ID card number can be passed in to verify the user's identity
	File preview	Allows you to preview documents of nearly 30 types through image or HTML online, with the source document style preserved as much as possible. This addresses the lack of support for certain document formats on different devices and enables online document preview on PC, app, and other terminals.
	Privacy protection	Provides private data filtering services, which can filter various types of private data in text files to effectively prevent information leakage, such as ID

		number, taxpayer identification number, business registration number, military ID number, email address, license plate number, and mobile number
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Regions and Domains

Last updated : 2024-01-31 16:33:35

Overview

Tencent Cloud's Cloud Infinite (CI) supports multi-region storage, and different regions have different default access domain names. The region you initially selected for the bucket cannot be modified. You can select a region closest to your business location to speed up object upload and download.

Note:

After a bucket is created, the default domain will be generated. To view the URL, you can go to the [CI console](#), click the name of the desired bucket, and click **File Management > Details**.

Regions and domains in the following table are COS domains. Old users can still use CI domains.

`BucketName` is the name you set for your bucket upon creation. To view its value, you can go to the [CI console](#), click the name of the bucket, and choose the **Bucket Configuration** tab.

`APPID` is one of the account identifiers assigned by the system after you successfully applied for the Tencent Cloud account. It can be viewed in [Tencent Cloud console](#) > **Account Information**.

For domain names supported by legacy versions, see [Legacy Domain Names](#).

Regions in the Chinese Mainland

Region	Region Abbreviation	Default Domain Name (Upload/Download/Management)
Beijing	ap-beijing	<BucketName-APPID>.cos.ap-beijing.myqcloud.com
Nanjing	ap-nanjing	<BucketName-APPID>.cos.ap-nanjing.myqcloud.com
Shanghai	ap-shanghai	<BucketName-APPID>.cos.ap-shanghai.myqcloud.com
Guangzhou	ap-guangzhou	<BucketName-APPID>.cos.ap-guangzhou.myqcloud.com
Chengdu	ap-chengdu	<BucketName-APPID>.cos.ap-chengdu.myqcloud.com
Chongqing	ap-chongqing	<BucketName-APPID>.cos.ap-chongqing.myqcloud.com

Regions in Hong Kong (China) and Outside the Chinese Mainland

Region	Region Abbreviation	Default Domain Name (Upload/Download/Management)
Hong Kong (China)	ap-hongkong	<BucketName-APPID>.cos.ap-hongkong.myqcloud.com
Singapore	ap-singapore	<BucketName-APPID>.cos.ap-singapore.myqcloud.com
Mumbai	ap-mumbai	<BucketName-APPID>.cos.ap-mumbai.myqcloud.com
Seoul	ap-seoul	<BucketName-APPID>.cos.ap-seoul.myqcloud.com
Bangkok	ap-bangkok	<BucketName-APPID>.cos.ap-bangkok.myqcloud.com
Tokyo	ap-tokyo	<BucketName-APPID>.cos.ap-tokyo.myqcloud.com
Silicon Valley (West US)	na-siliconvalley	<BucketName-APPID>.cos.na-siliconvalley.myqcloud.com
Virginia (East US)	na-ashburn	<BucketName-APPID>.cos.na-ashburn.myqcloud.com
Toronto	na-toronto	<BucketName-APPID>.cos.na-toronto.myqcloud.com
Frankfurt	eu-frankfurt	<BucketName-APPID>.cos.eu-frankfurt.myqcloud.com

Example

Assume that you have logged in to the CI console as the root account (APPID : 1250000000), and clicked **Bucket Management > Bind Bucket** to create a bucket named `examplebucket` residing in the Guangzhou region. The domain for CI processing will be as follows:



```
examplebucket-1250000000.cos.ap-guangzhou.myqcloud.com
```

Note:

examplebucket-1250000000: Indicates that the bucket is owned by the user whose `APPID` is `1250000000` .

`APPID` is a fixed and unique ID assigned by the system when you successfully applied for the Tencent Cloud account. You can view it in [Account Information](#).

cos: Indicates COS domains. `pic` and `picgz` indicate CI domains.

ap-guangzhou: Abbreviation of the region.

myqcloud.com: Indicates Tencent Cloud domain (fixed).

Features

Basic Image Processing Service

Last updated : 2024-01-31 16:33:35

CI provides multiple basic image processing features that facilitate various scenarios. For the supported basic image processing features, please see [Overview](#).

Note:

You can use APIs to process images during download. In addition, CI's [Pipeline Operator](#) allows you to perform multiple processing on images in sequence.

Currently, CI offers a 10 TB/month free tier for basic image processing. Exceeded usage will be charged at regular rates.

Usage

Using CI console

You can process images using the CI console. For more information, please see [Setting Styles](#).

Using RESTful APIs

You can process images using the APIs provided by CI. For more information, please see the API Documentation of [Basic Image Processing](#).

Restrictions

Format: Currently, processing JPG, BMP, GIF, PNG, and WebP, as well as decoding and processing HEIF are supported.

Size: The input image cannot be larger than 20 MB, with its width and height not exceeding 30,000 pixels, and the total number of pixels not exceeding 250 million. The width and height of the output image cannot exceed 9,999 pixels.

For an input animated image, the total number of pixels (Width x Height x Number of frames) cannot exceed 250 million pixels.

Number of frames (for animated images): For GIF, the number of frames cannot exceed 300.

Media Processing Service

Video Frame Capturing

Last updated : 2024-01-31 16:33:35

Overview

CI's video frame capturing feature captures the frames of a video at specified time points during upload or after storage. You can customize the start time point of frame capturing, frame capturing interval, number of frames to be captured, and output image size and format to meet your diversified needs.

Note:

Video frame capturing is a paid feature. For billing details, see [Media Processing Fees](#).

Use Cases

CI's video frame capturing feature is suitable for various scenarios, such as video sampling, specific frame capturing, and random frame capturing.

Directions

You can use the video frame capturing feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows.

You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can use a preset or custom template as follows:

Preset templates: Currently, CI provides a variety of preset templates for most video frame capturing use cases. You can view all such templates in the [CI console](#).

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Screenshot Template](#), [Updating Screenshot Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

Job

You can create a video frame capturing job for existing data stored in COS.

Console: You can create a video frame capturing job visually in the CI console as instructed in [Job](#).

API: You can create a video frame capturing job through API as instructed in [Submitting Screenshot Job](#).

Workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, frame capturing will be automatically performed on videos uploaded to the bucket or path, and the screenshots will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Video to Animated Image Conversion

Last updated : 2024-01-31 16:33:35

Overview

CI's video to animated image conversion feature converts a video file into an animated image file. You can specify the video segment for conversion, frame sampling method, as well as the frame rate, size, and format of the output animated image to meet your different needs.

Use Cases

Quick video preview

The video to animated image conversion feature allows you to select the highlights in a video on your video platform to convert them into an animated image for video preview, so that users can get a glimpse of the video without playing it back. Compared with traditional static video thumbnails, animated image thumbnails increase the click rate and video playbacks.

Sticker production

As a major category of content shared on social media platforms, stickers are more suitable for large-scale and fast dissemination than videos. The video to animated image conversion feature can quickly generate a large number of stickers in batches, improving the distribution efficiency and facilitating content dissemination.

How to Use

You can use the video to animated image conversion feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can use a preset or custom template as follows:

Preset template: Currently, CI provides a variety of preset templates for most video to animated image conversion use cases. You can view all such templates in the [CI console](#).

Custom templates: You can create templates in the console. You can also [create](#), [modify](#), [find](#), and [delete](#) templates through APIs.

Job

You can create a video to animated image conversion job for existing data stored in COS.

Creating job

Console: You can create a job visually in the [CI console](#) as instructed in the video to animated image conversion job documentation.

API: You can use APIs to create a video to animated image conversion job as instructed in [Submitting Animated Image Job](#).

Workflow

CI provides the workflow service, which can automatically process videos when they are uploaded and save the processing results in a specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Creating Workflow](#).

Creating, Deleting, querying, and searching for workflow

You can [Create workflows](#), [delete workflows](#), [search for specified workflows](#), [get workflow details](#), and [get the list of workflow instances](#) through APIs.

Video Enhancement

Last updated : 2024-01-31 16:33:35

Overview

By leveraging AI technologies to comprehensively analyze and assess video content, the video enhancement feature provides details enhancement, color enhancement, SDR to HDR, and super resolution features, which improve the video quality from all aspects.

Note:

Watermarks can be added to video files during video enhancement. For detailed directions, see [Template](#).

Use Cases

Video remastering

TV series and movies in SDR or with a low resolution or image quality can be remastered to generate HDR videos with more color and brightness details.

Image enhancement

Due to camera or environment restrictions, some videos may have low definition and dark image. Such videos can be processed by CI's SDR to HDR, details enhancement, color enhancement, and super resolution features to deliver a better watch experience on HD devices.

Directions

You can use the video enhancement feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize templates as follows:

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Video Enhancement Template](#), [Updating Video Enhancement Template](#), [DescribeMediaTemplates](#), [DeleteMediaTemplate](#) respectively.

Through job

You can create a video enhancement job through the console or API for existing data stored in COS.

Console: You can create a video enhancement or SDR-to-HDR job visually in the CI console as instructed in [Job](#).

API: You can create a video enhancement job through API as instructed in [Submitting Video Enhancement Job](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, video enhancement will be automatically performed on files uploaded to the bucket or path, and the files with an optimized image quality will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Video Editing

Last updated : 2024-01-31 16:33:35

Overview

The video clipping feature allows you to clip and splice videos stored in COS.

Video clipping: Clips the specified segment of a video file to generate a new video.

Video splicing: Splices several files to generate a new video.

Video clipping and splicing: Clips multiple files and then splices them to generate a new video.

Directions

You can use the video clipping feature through **jobs** or **workflows**. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize transcoding templates and audio/video splicing templates as follows:

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Splicing Template](#), [Updating Splicing Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

1. To implement video clipping, you can specify the time points for video clipping in the custom transcoding duration in the transcoding template as described in [Template](#) and then apply the template when creating a transcoding job or workflow.
2. To implement audio/video splicing, you can specify the locations of source files as well as the container format, frame rate, and other parameters of the output file in the splicing template as describes in [Template](#) and then apply the template when creating a splicing job or workflow.

Job

You can create an audio/video transcoding or splicing job for existing data stored in COS.

Creating job

Console: You can create an audio/video transcoding or splicing job visually in the CI console as instructed in [Job](#).

API: You can create an audio/video transcoding or splicing job through API as instructed in [Submitting Audio/Video Transcoding Job](#) and [Submitting Video Splicing Job](#).

Deleting, querying, and searching for job

You can delete, query, and search for a job by filters through API as instructed in [CancelMediaJob](#), [DescribeMediaJob](#), and [DescribeMediaJobs](#) respectively.

Workflow

With a media processing workflow in CI, you can quickly and flexibly create video processing flows as needed. A workflow is bound to a path of an input bucket. When a video file is **uploaded** to the path, the media workflow will be **automatically triggered** to perform the specified operation, with the processing result automatically saved to the specified path of the output bucket. You can create an **audio/video transcoding** and **splicing** workflow to clip and splice newly uploaded video files.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Deleting, querying, and testing workflow

You can delete, query, and test a workflow through API as instructed in [Deleting Workflow](#), [Querying Workflow](#), and [Testing Workflow](#) respectively.

Intelligent Thumbnail

Last updated : 2024-01-31 16:33:35

Overview

CI's intelligent thumbnail feature intelligently analyzes the quality, brilliance, and content relevance of video frames by understanding the video content with Tencent Media Lab's advanced AI technologies. Then, it extracts optimal frames to generate thumbnails to make the content more engaging.

Note:

The intelligent thumbnail feature is a paid service and billed by the video duration. For billing details, see [Media Processing Fees](#).

Three optimal keyframes will be output through smart analysis of each video file.

Use Cases

Video platform

For traditional video platforms, reviewers need to watch videos and then manually select thumbnails, which is labor consuming and slows down video release. The intelligent thumbnail feature can quickly select the most striking frames as thumbnails, which saves labor resources and accelerates video release.

Family album

At present, most family album services can display only images in loop. For video files in smart albums, the intelligent thumbnail feature can be used to automatically generate album thumbnails for loop display, thereby increasing the richness and utilization of family albums.

Directions

Workflow

CI provides the workflow service, which can automatically process videos when they are uploaded and save the processing results in a specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Job

You can create an intelligent thumbnail job for existing data stored in COS.

Creating job

Console: You can create an intelligent thumbnail job visually in the [CI console](#) as instructed in [Job](#).

API: You can create an intelligent thumbnail job through API as instructed in [Submitting Intelligent Thumbnail Job](#).

Deleting, querying, and searching for job

You can delete, query, and search for a job by filters through API as instructed in [CancelMediaJob](#), [DescribeMediaJob](#), and [DescribeMediaJobs](#) respectively.

Audio/Video Transcoding

Last updated : 2024-01-31 16:33:35

Overview

The audio/video transcoding feature converts an audio/video file bitstream. It changes parameters of the source bitstream, such as codec, resolution, and bitrate, to adapt to different devices and network conditions.

Note:

Audio/Video transcoding is a paid feature. For billing details, see [Media Processing Fees](#).

For a video file, you can add a watermark to the video during transcoding. For details, see [video watermark](#).

You can toggle on the accelerated transcoding option for the audio/video transcoding job. After you do this, the job is added to an accelerated transcoding queue and its speed can reach more than 5 times of the regular transcoding speed.

Use Cases

Multi-device adaptability

As content platforms are generally intended for multiple types of devices, they need to provide media files in different formats for different users. CI's file transcoding feature provides a variety of transcoding parameters for most transcoding requirements. It also supports automatic triggering of transcoding during media file upload, so as to quickly meet the format requirements of different terminals.

Reduced space and traffic usage

For media resources such as images, the file transcoding feature can adjust their bitrates and provide diverse compression capabilities to increase the compression efficiency and downsize files. This reduces lags, storage space usage, and traffic fees.

Sync watermarking

CI can add multiple watermarks to media resources synchronously. This feature enhances the brand awareness and reduces the possibility of media file theft. In addition, it supports many watermark formats such as static and dynamic image as well as text, fully meeting your watermark needs in different scenarios.

Parallel processing of large-scale long videos

CI supports accelerated transcoding, which can implement rapid parallel processing of a large number of long videos, for example, movies and TV series.

How to Use

You can use the file transcoding feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can use preset or custom template as follows:

Preset template: Currently, CI provides a variety of preset templates for most file transcoding use cases. You can view all such templates in the [CI console](#).

Custom templates: You can create templates in the [console](#). You can also [create](#), [modify](#), [find](#), and [delete](#) templates through APIs.

Through job

You can create a file transcoding job through the console or API for existing data in COS.

Console: You can create a transcoding job visually on the CI console as instructed in [file transcoding](#).

API: You can create a transcoding job through API as instructed in [Submitting Audio/Video Transcoding Job](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, transcoding will be automatically performed on files uploaded to the bucket or path, and the transcoded files will be saved in the specified location.

Creating a workflow

You can create a workflow using the CI console. For more information, see [Workflow](#).

Creating, deleting, querying, and searching for workflow through API

You can [create a workflow](#), [delete a workflow](#), [search for specified workflows](#), and [update a workflow](#) through APIs.

Video Metadata Acquisition

Last updated : 2024-01-31 16:33:35

Overview

You can get the metadata of media files such as videos, audios, and subtitles stored in COS, including video file's encoding format, codec, pixel format, duration, bitrate, frame rate, width, and height, audio file's bitrate, sample format, sample rate, number of channels, and duration, as well as subtitles' language. This helps meet your needs for various media information.

Use Cases

Media index

By using CI's video metadata acquisition feature and tagging feature as described in [Configuring Buckets](#) features together, you can create a tree of existing media files and quickly find target files by tag.

Video library

With the video metadata acquisition feature, you can quickly get key video information on your video platform to easily create a video library.

Directions

You can get video metadata through API as instructed in [GenerateMediainfo](#).

Audio/Video Splicing

Last updated : 2024-01-31 16:33:35

Overview

The video/audio splicing feature adds the specified video/audio segment at the beginning or end of a video/audio file to generate a new one.

Note:

Audio/Video splicing is billed by the output file size under the file transcoding billable item. For more information, see [Media Processing Fees](#).

Use Cases

CI's audio/video splicing feature is suitable for various scenarios, such as adding opening and closing credits, advertising, marketing, and video production.

Directions

You can use the audio/video splicing feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize audio/video splicing templates as follows: Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Splicing Template](#), [Updating Splicing Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

Job

You can create an audio/video splicing job for existing data stored in COS.

Creating job

Console: You can create an audio/video splicing job visually in the CI console as instructed in [Job](#).

API: You can create an audio/video splicing job through API as instructed in [Submitting Video Splicing Job](#).

Deleting, querying, and searching for job

You can delete, query, and search for a job by filters through API as instructed in [CancelMediaJob](#), [DescribeMediaJob](#), and [DescribeMediaJobs](#) respectively.

Workflow

With a media processing workflow in CI, you can quickly and flexibly create video processing flows as needed. A workflow is bound to a path of an input bucket. When a video file is **uploaded** to the path, the media workflow will be **automatically triggered** to perform the specified operation, with the processing result automatically saved to the specified path of the output bucket. You can set **audio/video splicing**, **file transcoding**, **video frame capturing**, **video-to-animated image conversion**, and **intelligent thumbnail** jobs in a workflow.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Audio/Video Segmentation

Last updated : 2024-01-31 16:33:35

Overview

The audio/video segmentation feature can divide an audio or video into several segments of the specified duration to improve the efficiency of postproduction. It allows you to change the container format of the audio or video segments during segmentation.

Note:

When you use the audio/video segmentation feature, if only segmentation is performed, no fees will be incurred. If the container format is changed, remuxing fees under the audio/video transcoding billable item will be charged by the output file length. For more information, see [Media Processing Fees](#).

Use Cases

The audio/video segmentation feature is suitable for scenarios where large media files need to be segmented.

Directions

You can use the audio/video segmentation feature through jobs or workflows.

Through job

You can create an audio/video segmentation job through the console or API for existing data stored in COS.

Creating job

Console: You can create an audio/video segmentation job visually in the CI console as instructed in [Job](#).

API: You can create an audio/video segmentation job through API as instructed in [Submitting Remuxing Job](#).

Deleting, querying, and searching for job

You can delete, query, and search for a job by filters through API as instructed in [CancelMediaJob](#), [DescribeMediaJob](#), and [DescribeMediaJobs](#) respectively.

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, audio/video segmentation will be automatically performed on files uploaded to the bucket or path, and the audio/video segments

will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Adaptive Bitrate Streaming

Last updated : 2024-03-04 09:28:57

Overview

The adaptive bitrate streaming feature can generate multi-bitrate adaptive HLS or DASH target files from a single original video at one time, helping you quickly distribute video content in different network conditions.

Use Cases

Video website: The bitrate can be automatically switched according to network conditions without affecting the watch experience.

Short video terminal: The bitrate can be automatically switched according to network conditions without affecting the watch experience.

Online meeting and education: The bitrate can be adapted to network conditions to improve the communication quality.

How to Use

You can use the adaptive bitrate streaming feature through a workflow.

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, adaptive bitrate streaming will be automatically performed on files uploaded to the bucket or path, and the muxed files will be saved in the specified location.

You can create a workflow through the console or API:

Console: You can create a workflow in the console to use the HLS adaptive muxing feature. For more information, see [Workflow](#).

API: You can use an API to create an HLS adaptive muxing workflow. For more information, see the [API documentation](#).

Top Speed Codec Transcoding

Last updated : 2024-01-31 16:33:35

Overview

The top speed codec transcoding feature integrates image quality repair and enhancement, adaptive parameter selection, and V265 encoder among other video processing features. It makes videos clearer yet smaller and requires only low consumption of network resources while delivering a better watch experience.

Note:

Watermarks can be added to video files during transcoding. For detailed directions, see [Template](#).

Both top speed codec and audio/video transcoding features contain the HDR to SDR feature, which can convert high dynamic range (HDR) videos to standard dynamic range (SDR) videos. CI changes the dynamic range conversion policy based on the video scene, so that the image details of the output video are as close as possible to those of the input video.

Use Cases

Image quality enhancement

CI can enhance the subjective image quality by integrating adaptive parameter selection and V265 encoder among other video processing features. It makes videos clearer yet smaller and requires only low consumption of network resources while delivering a better watch experience.

Reduced space and traffic usage

For media resources such as images, the top speed codec transcoding feature can lower their bitrates and increase their definitions. It provides diverse compression capabilities to increase the compression efficiency, downsize files, and mitigate the bandwidth pressure. This reduces lags, storage space usage, and traffic fees.

Directions

You can use the top speed codec transcoding feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize top speed codec transcoding templates as follows:

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Top Speed Codec Transcoding Template](#), [Updating Top Speed Codec Transcoding Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

Through job

You can create a top speed codec transcoding job through the console or API for existing data stored in COS.

Console: You can create a top speed codec transcoding job visually in the CI console as instructed in [Job](#).

Note:

You can enable HDR to SDR through the advanced settings in the audio/video transcoding or top speed codec transcoding template.

API: You can create a top speed codec transcoding job through API as instructed in [Submitting SDR-to-HDR Job](#).

Note:

You can create a transcoding template through API and enable HDR to SDR in the template as instructed in [Creating Professional Transcoding Template](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, transcoding will be automatically performed on files uploaded to the bucket or path, and the output files will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Video Montage

Last updated : 2024-01-31 16:33:35

Overview

By leveraging the multimodal content understanding technology, this feature recognizes and aggregates the video content, postures, and scenes to quickly and professionally generate highlights such as shots in games, choruses of songs, and hilarious moments in variety shows, making it suitable for sports events, variety shows, galas, and many other scenarios.

Use Cases

Game replay

Exciting moments like shooting and scoring during sports events and games can be quickly clipped to generate highlights for replay.

Video promotion

Official promotional materials and highlights can be automatically generated for targeted marketing to user groups with different interests.

Directions

You can use the video montage feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize video montage templates as follows:

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Video Montage Template](#), [Updating Video Montage Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

Through job

You can create a video montage job through the console or API for existing data stored in COS.

Console: You can create a video montage job visually in the CI console as instructed in [Job](#).

API: You can create a video montage job through API as instructed in [Submitting Video Montage Job](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, video montage operations will be automatically performed on files uploaded to the bucket or path, and the generated highlights will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Deleting, querying, and testing workflow

You can delete, query, and test a workflow through API as instructed in [Deleting Workflow](#), [Querying Workflow](#), and [Testing Workflow](#) respectively.

Digital Watermark

Last updated : 2024-01-31 16:33:35

Overview

CI can hide images and strings in a video or image in a way they can hardly be detected or modified, without compromising the integrity and layout of the video or image. By identifying the watermark hidden in the content, you can confirm the content creator, copyright owner, and spreaders and check whether the video content is tampered with.

Use Cases

Copyright protection

CI's digital watermark integrates transparency, robustness, security, and identification, making it a must-have feature for creators. Such watermarks can resist various attacks such as cropping, transcoding, special effect, rotation, and filter. By identifying the watermark hidden in the content, you can confirm the content creator, copyright owner, and spreaders and check whether the video content is tampered with.

Directions

You can use the digital watermark feature through jobs or workflows.

Through job

You can add a digital watermark to an existing video stored in COS by enabling video watermark when creating an audio/video transcoding job or by creating an independent digital watermark job through the console or API.

Console: You can create an audio/video transcoding or digital watermark extracting job visually in the CI console as instructed in [Job](#).

API: You can create a digital watermark job through API as instructed in [Submitting Digital Watermark Extracting Job](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, digital watermark operations will be automatically performed on files uploaded to the bucket or path.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Video Tagging

Last updated : 2024-01-31 16:33:35

Overview

The video tagging feature accurately recognizes video content and automatically outputs multidimensional content tags by analyzing the visuals, scenes, behaviors, and objects in the video based on multi-modal information fusion and alignment technologies. It can be applied to diverse scenarios such as smart video analysis, video moderation, video search, and personalized video recommendation to facilitate smart video production.

Use Cases

UGSV categorization

In scenarios such as UGSV platform, ecommerce, and social networking, you can use tags to push content to users in a targeted manner. Meanwhile, with the aid of accurate and detailed video categories, users no longer need to spend a lot of time filtering invalid information.

How to Use

You can use the video tagging feature through jobs.

Through job

You can create video tagging jobs through APIs to get video tags for existing data in COS.

API: You can use APIs to create video tagging jobs.

Video Quality Scoring

Last updated : 2024-01-31 16:33:35

Overview

The video quality scoring feature comprehensively analyzes the video clarity, signal-to-noise ratio, color, brightness, and other parameters and outputs a video quality score through no-reference image quality assessment.

Use Cases

End-to-end production quality monitoring

It can be applied to the quality monitoring of the entire video production chain, and to evaluate the quality of a video after transcoding or super-resolution.

Media processing parameter strategy

Through video quality evaluation, you can output a video with both high cost performance (moderate bit rate and resolution) and desired image quality.

How to Use

You can use the video quality scoring feature through jobs.

Through job

You can create a video quality scoring job through the console or API for existing data stored in COS.

API: You can create a video quality scoring job through API as instructed in [Submitting Video Quality Scoring Job](#) in the API documentation.

Smart Voice Service

Voice/Sound Separation

Last updated : 2024-01-31 16:33:35

Overview

The voice/sound separation feature separates the voice from the background sound in a video material to generate a new independent audio file. Then, you can apply artistic processing of other styles to the material without accompaniment and noise.

Use Cases

Post audio mixing

Diverse stylistic and artistic processing operations can be performed on voices, background sounds, and accompaniments after separation, such as voice changing and audio mixing.

Video promotion

Voices can be quickly separated, and then different background sounds can be added to mix materials for targeted marketing to user groups with different interests.

Directions

You can use the voice/sound separation feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize voice/sound separation templates as follows:

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Voice/Sound Separation Template](#), [Updating Voice/Sound Separation Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

Through job

You can create a voice/sound separation job through the console or API for existing data stored in COS.

Console: You can create a voice/sound separation job visually in the CI console as instructed in [Job](#).

API: You can create a voice/sound separation job through API as instructed in [Submitting Voice/Sound Separation Job](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, voice/sound separation will be automatically performed on files uploaded to the bucket or path, and the output audio files will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Deleting, querying, and searching for workflow

You can delete, query, and test a workflow through API as instructed in [Deleting Workflow](#), [Querying Workflow](#), and [Testing Workflow](#) respectively.

Text To Speech

Last updated : 2024-01-31 16:33:35

Overview

The text to speech feature converts text to natural-sounding and smooth speeches in a variety of voices in PCM, WAV, or MP3 format through advanced deep learning technology. It comes with various features such as speech speed, voice, and volume adjustment. It is suitable for diverse scenarios, including smart customer service, voice interaction, audiobook, and accessible broadcasting.

Use Cases

Smart customer service

The text to speech feature works with speech recognition and natural language processing modules to close the loop of human-machine interaction in customer service bot and task service robot use cases. The highly natural bot voices make human-machine interaction more natural.

Audiobook

Electronic courseware, novels, and other types of text can be converted to audios of different voices to create audiobooks that can be listened to at any time.

Directions

You can use the text to speech feature through jobs or workflows. In order to improve the operational efficiency and reduce repetitive operations, CI offers the template feature, which is a configuration item in jobs and workflows. You can save common parameter combinations as templates and reuse them directly in subsequent operations, with no need to set the parameters every time you start a job. You can customize text-to-speech templates as follows:

Custom templates: You can create a template in the console as instructed in [Template](#). You can also create, modify, find, and delete a template through API as instructed in [Creating Text-to-Speech Template](#), [Updating Text-to-Speech Template](#), [DescribeMediaTemplates](#), and [DeleteMediaTemplate](#) respectively.

Voice description

Name	Voice Parameter Value	Type	Use Case	Supported Languages	Voice Quality
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Ruxue	ruxue	Standard female voice	General	Chinese, Chinese-English mix	Standard
Aixiaonan	aixiaonan	Sweet female voice	General, social	Chinese, Chinese-English mix	Premium
Aixiaoxing	aixiaoxing	Commentary male voice	General, commentary	Chinese, Chinese-English mix	Premium
Alice	alice	Standard female voice	General	English	Premium

Multi-sentiment voice description

Name	Voice Parameter Value	Sentiment Category
Aixiaoxing	aixiaoxing	Neutral, broadcasting, calm, excited

Note:

Text to speech supports async and sync modes. If the input text is short, such as in the one-sentence scenario, the sync mode is recommended.

Through job

You can create a text-to-speech job through the console or API for existing data stored in COS.

Console: You can create a text-to-speech job visually in the CI console as instructed in [Job](#).

API: You can create a text-to-speech job through API as instructed in [Submitting Text-to-Speech Job](#).

Through workflow

CI provides the workflow service. You can enable a workflow for a bucket or a specific path. Then, text to speech will be automatically performed on files uploaded to the bucket or path, and the generated audio files will be saved in the specified location.

Creating workflow

You can create a workflow in the CI console as instructed in [Workflow](#).

Creating, deleting, querying, and updating workflow through API

You can create, delete, query, and update a workflow through API as instructed in [Creating Workflow](#), [Deleting Workflow](#), [Querying Workflow](#), and [Updating Workflow](#) respectively.

Audio Noise Reduction

Last updated : 2024-01-31 16:33:35

Overview

The audio noise reduction feature removes device noise, ambient noise, and other noises for an audio in course recording, outdoor shooting post-production, or other scenarios.

Note:

The input file is a video file.

Use Cases

Post-optimization of online courses/conferences

Noise reduction and gain processing are performed on an audio recorded in unfavorable environment or by an unfavorable device, so that the audio information in the course can be accurately transmitted.

UGC creation

Audio noise is removed and the accuracy of speech recognition is improved to reduce the amount of automatic subtitle modification and optimize the audio quality of the finished content.

How to Use

You can use the audio noise reduction feature through jobs or workflows.

Through job

You can create an audio noise reduction job through the console or API for existing data stored in COS.

API: You can create an audio noise reduction job through API as instructed in [Submitting Audio Noise Reduction Job](#) in the API documentation.

Content Moderation Service

Video Moderation

Last updated : 2024-01-31 16:33:35

Overview

The video moderation feature helps you effectively identify restricted content (including pornography, illegal and non-compliant content, and ad) in videos. At present, CI supports automatic moderation and human moderation by professional teams to secure the platform in an all-around way.

Automatic moderation

The video moderation feature captures video frames to get images to be moderated. It is a security service with cutting-edge image recognition algorithms, which are trained with massive amounts of data in non-compliant images/videos to create a model for recognizing videos uploaded by users and live video streams and filtering pornographic, illegal, non-compliant, and advertising content. It delivers a high recognition accuracy and recall rate, meets the needs for content moderation in multiple dimensions, and has been constantly improved in its recognition standards and capabilities in real-time response to the changing regulatory requirements.

Human moderation

CI provides a professional human moderation team to verify the machine recognition results of pornographic, illegal, non-compliant, and advertising information, delivering a moderation accuracy of 99%.

Use Cases

Ecommerce platform

More and more sellers upload videos to show their products to attract more customers. However, this also brings risks of non-compliant content such as QR codes and ads. The video moderation feature of CI covers all types of non-compliant content and filters various types of product videos in ecommerce scenarios to effectively guarantee users' browsing experience and protect the platform ecosystem.

Live streaming

Various industries are investing in live video streaming and real-time audio/video businesses. When developing live streaming businesses, enterprises and platforms need to pay special attention to content security. The live stream moderation feature of CI can detect pornographic, vulgar, abusive, and advertising content in live video streams.

Social media platform

Vlogs have become an important part of UGC on social media platforms, and diverse vlog scenarios also create moderation needs of various types. In addition, the video content on social media platforms is large in size and updated fast, and human moderation can hardly meet the efficiency requirements. The video moderation feature of CI covers various types of non-compliances. You can configure automatic triggering of moderation of incremental content in the console to quickly block the non-compliant content.

Online education

As most users of online education are minors, regulation of the platform content compliance by regulators is strict. This creates scene-specific content moderation requirements and more diverse detection tags. The video moderation feature of CI has a very high machine recognition accuracy and supports human moderation, safeguarding the education content security.

Video platform

Compared with other platforms where videos are stored, a professional video platform needs to moderate more long videos. As traditional moderation relies on humans to review, annotate, and remove non-compliant clips or entire videos, the moderation is time-consuming, and trending videos can be hardly published quickly. The video moderation feature of CI can quickly locate non-compliant clips and automatically block the videos, effectively improving the video moderation efficiency and guaranteeing the platform security.

How to Use

Automatic moderation during upload

You can activate the service in the CI console. Then, incremental videos in the bucket will be moderated during upload. For more information, see [Configuring Video Moderation](#).

Moderation by scanning historical data

For the historical video data stored in COS, you can configure historical data moderation in the console to moderate the videos in the specified bucket, directory, or time period.

Through an API

You can use APIs to moderate the content of images, videos, audios, text, documents, and webpages. For more information, see [Video Moderation](#).

Through the SDK

You can also use the SDKs for diverse programming languages to moderate the content of images, videos, audios, text, documents, and webpages. For more information, see the following SDK documentation:

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SDK	Integration Guide
Android SDK	Video Moderation
C SDK	Video Moderation
C++ SDK	Video Moderation
Go SDK	Webpage Moderation
.NET (C++) SDK	Video Moderation
iOS SDK	Webpage Moderation
JavaScript SDK	Webpage Moderation
Node.js SDK	Webpage Moderation
Python SDK	Webpage Moderation

Note:

The processing capabilities provided by CI have been fully integrated into the COS SDK, so you can directly use it to process data.

Viewing moderation results

Callback settings: You can set the callback address, moderation type, and threshold to filter callbacks. The moderation result will be sent to your callback address automatically for subsequent operations. For more information on the callback content, see [Configuring Video Moderation](#).

Visual processing: After enabling the video moderation feature, you can view the moderation results by condition on the **Moderation Details** page in the console and manually process them. For more information, see [Moderation Details](#).

Webpage Moderation

Last updated : 2024-01-31 16:33:35

Overview

The webpage moderation feature helps you effectively identify restricted content (including pornography, violation, and ad) in webpages. At present, CI supports automatic moderation and human moderation by professional teams to secure the platform in an all-around way.

Automatic moderation

The webpage moderation feature gets images and text on a webpage to be moderated. It is a security service with cutting-edge image recognition algorithms and non-compliant text models, which are trained with massive amounts of non-compliant data to create a model for recognizing webpage content uploaded by users and filtering pornographic, advertising, illegal, and non-compliant content. It delivers a high recognition accuracy and recall rate, meets the needs for content moderation in multiple dimensions, and has been constantly improved in its recognition standards and capabilities in real-time response to the changing regulatory requirements.

Human moderation

CI provides a professional human moderation team to verify the machine recognition results of pornographic, illegal, non-compliant, and advertising information, delivering a moderation accuracy of 99%.

Use Cases

Webpage platform

Compared with other platforms where webpages are stored, a professional webpage platform needs to moderate more long webpages. As traditional moderation relies on humans to review, annotate, and remove non-compliant webpage elements, moderation is time-consuming, and trending webpages can hardly be processed quickly. CI's webpage moderation feature can quickly locate non-compliant elements and automatically block them, effectively improving the webpage moderation efficiency and guaranteeing the platform security.

Ebook

CI's webpage moderation feature can quickly locate non-compliant elements in high amounts of text, book covers, and advertising content on ebook webpages. This helps websites avoid the risk of content non-compliance and improves the reader experience.

How to Use

Using APIs

You can use the provided APIs to moderate images and text on webpages. For more information, see [Webpage Moderation](#).

Using SDKs

You can also use the SDKs for diverse programming languages to moderate the images and text on webpages. For more information, see the following SDK documentation:

SDK	Integration Guide
Android SDK	Webpage Moderation
C++ SDK	Webpage Moderation
Go SDK	Webpage Moderation
iOS SDK	Webpage Moderation
JavaScript SDK	Webpage Moderation
Node.js SDK	Webpage Moderation
Python SDK	Webpage Moderation

Note:

The processing capabilities provided by CI have been fully integrated into the COS SDK, so you can directly use it to process data.

Viewing moderation results

Callback settings: You can set the callback address, moderation type, and threshold in a request to filter callbacks. The moderation result will be sent to your callback address automatically for subsequent operations.

Visual processing: After enabling the webpage moderation feature, you can view the moderation results by condition on the **Moderation Details** page in the console and manually process them. For more information, see [Moderation Details](#).

Content Recognition Services

FaceID

Last updated : 2024-01-31 16:33:35

Overview

CI's face recognition feature is a service kit that can verify the authenticity of user face information. It provides various verification modules, such as ID card OCR recognition and FaceID, to satisfy diverse user identity verification needs in different industries, including public security, human resources, social security, finance, and insurance.

Feature	Description
ID card OCR recognition	<p>This feature can recognize all fields on the front and back of a second-generation Chinese ID card, including name, gender, ethnicity, date of birth, address, ID number, issuing authority, and validity period.</p> <p>It can also crop ID card photos and face photos, as well as warn about photographed, doctored, and photocopied images, edge and frame occlusions, temporary ID cards, and invalid validity periods.</p>
FaceID	<p>This feature integrates the capability of liveness detection and comparison with authoritative face libraries, where a selfie video, name, and ID card number can be passed in to verify the user's identity.</p> <p>It first checks whether the face in the selfie video is a real person so as to prevent various types of attacks such as photo, video, and static 3D modeling.</p> <p>After the liveness detection is completed, it further compares the face in the video with the face photo registered in an authoritative face library to determine whether they are the same person.</p>

Use Cases

Government affairs and public services

Typical scenarios: Integrated government service, police service through WeChat Mini Program, business registration, and pensioner liveness verification

FaceID supports user face recognition required for online business transaction processing with government agencies. Users can launch the WeChat official accounts, mini programs, or applications of government agencies, call FaceID for identity verification, and make appointments for various business transactions once verified.

Finance

Typical scenarios: Bank account opening and insurance verification

ID card recognition can be widely used in industries such as banking and securities where users' identities require verification to process business transactions such as remote account opening and large amount transfer, helping reduce banks' labor costs and improve the user convenience.

Commercial insurance companies and social security institutions are often unable to verify the identities and existences of beneficiaries as they may not come on site to complete the formalities in person for various reasons, including age and health conditions. With the FaceID service, those organizations can effectively avoid risks, such as insurance fraud.

ISP

Typical scenarios: Services provided by ISPs, such as online mobile number application, SIM card purchase, and broadband service application

The Ministry of Industry and Information Technology (MIIT) of China stipulates that users must verify their identities before they can use services provided by ISPs. Users can log in to the applications or WeChat official accounts of ISPs, verify their identities through FaceID, and activate and request mobile services online in a self-service manner.

Identity registration

Typical scenarios: Internet access in internet cafés and hotel check-in

Pursuant to applicable laws and regulations, identity registration is required in places such as internet cafés. In this case, the receptionist can call the FaceID service to verify user identities and register them before granting the internet access.

Transportation and mobility

Typical scenarios: Passenger screening and boarding at airports, security check and ticket purchase at railway stations, ticket purchase at long-distance bus services, and border inspection and customs clearance

Passengers may forget to carry their ID cards, so they cannot check in at airports. FaceID helps the public security administration build a temporary identity verification service on WeChat Mini Program. After passengers call the FaceID service on the mini program to verify their identities, temporary QR codes for boarding will be generated, which can be scanned for identity verification at check-in counters and boarding gates.

Directions

Currently, you can call APIs to use the FaceID service. For more information, see FaceID).

Part-of-Speech Analysis (Word Segmentation)

Last updated : 2024-01-31 16:33:35

Overview

Part-of-speech analysis is a text analysis and mining capability provided for various enterprises and developers. It can help users efficiently process text and realize word segmentation and part-of-speech tagging.

Use Cases

Text analysis

The part-of-speech tagging service can attach a corresponding part of speech to each word after word segmentation and then quickly carry out deeper text mining processing, and subsequent material classification, archiving, statistics, and other operations, without worrying about new word discovery, ambiguity elimination, or other issues.

Statistics of high-frequency words

It can be used with speech recognition to perform part-of-speech analysis on the text results of speech recognition, and count high-frequency entity words for recommendations.

How to Use

You can process words stored in COS by using the CI's word segmentation job API. For details, see [Submitting Word Segmentation Job](#) in the API documentation.

File Processing Services

File Preview

Last updated : 2024-01-31 16:33:35

Overview

The file preview feature allows you to preview files of nearly 30 types online through image or HTML, with the source file style preserved as much as possible. This addresses the lack of support for certain file formats on different devices and enables easy online file preview on PC, app, and other terminals.

Note:

File preview is a paid feature. For billing details, see File Processing Fees.

Use Cases

Online education

The file preview feature enables viewing various types of files such as courseware and handouts in online education, which delivers an easier user experience.

Enterprise OA

As more and more companies allow employees to work remotely in different places, the demand for file preview on multiple terminals is soaring. CI can help you implement online file preview on PC, app, and other terminals with speed and ease.

Online file storage

CI's file preview feature can solve the problem with online display of file content while preserving the source file style to the greatest extent. This meets the needs of browsing files in online file storage services on PC, app, and other terminals.

Website transcoding

The display of file content at websites is subject to browser rules. The file preview feature of CI allows generating images from multiple types of files for preview. This addresses the display problems of file content on webpages.

Directions

Changing service status

Enable/Disable the service: You can enable/disable the file preview feature visually in the console. For more information, see [File Preview](#).

Query the status: You can check the file preview feature status of the specified bucket through APIs. For more information, see the API documentation.

Processing during download

You can use the file preview API to preview a file when downloading it. For more information, see the [API documentation](#).

Job

Creating job

Console: You can create file preview jobs visually in the CI console as instructed in [File Preview](#).

API: You can use APIs to create file preview jobs as instructed in the [API documentation](#).

Querying/Pulling job

Console:

You can view the execution status of jobs and find/pull specified jobs on the file preview page in the CI console. For detailed directions, see [File Preview](#).

API:

Query job: You can use the file preview API to query the specified job as instructed in the API documentation.

Pull job: You can use the file preview API to pull all tasks that meet the conditions as instructed in the API documentation.

Queue

Query: You can use the file preview API to query the queue as instructed in the API documentation.

Update: You can use the file preview API to update the file preview queue as instructed in the API documentation.

Privacy Protection

Last updated : 2024-01-31 16:33:35

Overview

CI's privacy protection feature provides private data filtering services. It can filter various types of private data in text files to effectively prevent information leakage, such as ID number, taxpayer identification number, business registration number, military ID number, email address, license plate number, and mobile number. In addition, it determines the sensitivity level (low, medium, or high) based on the type and amount of sensitive data, and then displays the names of laws and regulations that may be violated by the files for reference. This well meets diverse requirements of data availability and privacy protection.

Note:

Privacy protection is a paid feature. For billing details, see File Processing Fees.

Use Cases

Website

Knowledge base websites receive a large number of files uploaded by users every day, but some files may contain private data such as ID numbers and military ID numbers, which may bring legal risks. CI's privacy protection feature can automatically filter such data when files are uploaded, ensuring the website security at all times and efficiently avoiding risks.

Enterprise OA

Different employees have different permissions to view different files. Therefore, file transfer between them may involve permission conversion. If there is a lack of file content filtering, sensitive data leakage may occur. CI's privacy protection feature can conduct customized filtering for different types of data, so that employees can view files only under their respective permissions.

Directions

Enabling service

You can visually enable the privacy protection feature in the CI console and select multiple privacy categories as filters. For more information, see [Privacy Protection](#).

Viewing filtering results

After enabling privacy protection, you can view the details of private and sensitive data on the feature page in the CI console by time, violation type, sensitivity level, or moderation type. For more information, see [Privacy Protection](#).

File Processing Service

Last updated : 2024-01-31 16:33:35

Overview

File processing features such as hash calculation, decompression, and compression and packaging are provided for all files stored in COS. Currently, the following file processing features are supported:

Feature	Description
Hash calculation	It calculates the file hash. Currently, the following hash calculation algorithms are supported: MD5, SHA-1, and SHA-256. File size limits: Sync request: Below 128 MB. Async request: Below 50 GB.
File decompression	It decompresses .zip, .tar, .gz, or .7z packages in the cloud and dumps the extracted files to COS. File size limit: Below 5 TB.
Multi-file zipping	It compresses multiple files into a .zip, .tar, or tar.gz format. File limit: Up to 10,000 files of less than 50 GB in total can be zipped.

Note:

The file processing service is provided and charged by CI. For billing details, see [File Processing Fees](#).

Currently, the file processing service is available only in Beijing and Shanghai regions.

Use Cases

Data verification

The file hash calculation feature can be used to quickly check the data consistency.

Daily tools

On-cloud PaaS file compression and decompression features are provided, which enable you to preview files after decompression and enrich online preview scenarios.

How to Use

The file processing feature is provided by CI, so you need to click [here](#) to activate CI first.

After activating CI, you can enable file processing in the COS console and then use the feature in the console or via an API.

Using the COS console

In the file list

You can click **More Actions** in the bucket file list to perform file processing operations such as hash calculation on files. For more information, see [Processing File in File List](#).

Through a job

You can perform file processing operations through **jobs and workflows**. For more information, see [Configuring File Hash Calculation Job](#).

Note:

Currently, this feature can be used only through a job but not a workflow.

Smart Toolbox

Last updated : 2024-01-31 16:33:35

Overview

The smart toolbox provides capabilities for processing almost all types of visualized multimedia files, such as image watermark, image compression, and audio/video/file format conversion. It presents various capabilities of COS in the form of convenient and quick tools in the console for you to use with speed and easy.

Note

All the capabilities in the smart toolbox are implemented based on the data processing APIs of COS. Using them is equivalent to calling such APIs. You need to keep the following in mind during use:

When you use the smart toolbox for the first time, the **CI** service will be activated for you free of charge.

Whenever a processing operation is completed through the toolbox, it is equivalent to calling a data processing API once and incurs processing fees as detailed below:

Tool	Fees
Image compression (WebP or JPEG format), image editing, image watermark, and image information	Basic image processing
Image compression (AVIF or HEIF format)	Advanced image compression
Audio/Video processing	Media processing
AI processing	Content recognition
Online file preview	File preview

Tools

The smart toolbox currently contains the following tools:

Category	Tool
Image processing	Image compression
	Image editing

	Image watermark
	Image information
Audio/Video processing	Audio/Video format conversion
	Top speed codec transcoding
	Video frame capturing
	Video-to-animated image conversion
	Intelligent thumbnail
	Digital remastering
	Video montage
	Voice/Sound separation
AI processing	Image tagging
	Vehicle and license plate detection
File processing	Online file preview

Image processing

Image compression

Image editing

Image watermark

Image information

The image compression tool can downsize an image as much as possible without sacrificing quality so that it can be stored at a lower cost and accessed more quickly.

Directions

1. Log in to the [COS console](#). On the left sidebar, click **Smart Toolbox**.
2. On the **Smart Toolbox** page, select **Image Processing > Image Compression**.
3. In the image upload area, select an existing image in the bucket and add it to the tool.
4. After the image is added, the tool will automatically process it, and you can see the size of the compressed image on the left. You can also download the compressed image.

The image editing tool offers capabilities of image cropping, rotation, scaling, sharpening, brightness adjustment, and contrast adjustment.

Directions

After adding an image as instructed in steps 1–3 in the [Image compression](#) section, use tools on the left to make corresponding adjustments.

The image watermark tool allows you to add an image or text to another image in the form of watermark.

Directions

Image watermark: After adding an image as instructed in steps 1–3 in the [Image compression](#) section, click **Image Watermark** on the left, select an existing image in the bucket, adjust the margins, and click **Generate Watermark**.

Text Watermark: Click **Text Watermark** on the left, enter the watermark text, adjust the margins, font, and font size, and click **Generate Watermark**.

The image information tool lists the format, size, and MD5 information of an image.

Directions

After adding an image, click **Information** on the left to view the information of the image.

Audio/Video processing

Audio/Video format conversion

Top speed codec transcoding

Video frame capturing

Video-to-animated image conversion

Intelligent thumbnail

Digital remastering

Video montage

Voice/Sound separation

The audio/video format conversion tool can convert your audio/video files into MP4, MP3, MOV, AVI, MKV, and other formats. It allows you to set different parameters such as video resolution and audio bitrate during conversion to adapt to different terminals and network environments.

Directions

1. Log in to the [COS console](#). On the left sidebar, click **Smart Toolbox**.
2. On the **Smart Toolbox** page, select **Audio/Video Processing** > **Audio/Video Format Conversion**.
3. Select an audio/video file and add it to the tool. You can select existing files in the bucket or local files, but if you select local files, you need to upload them to the bucket, as the tool can convert files in the bucket only.
4. After selecting an audio/video file, you need to select the conversion parameters as detailed below:

The following is an example of converting a video with parameters of **MP4 format, H.264 codec, 720 * proportional**

height resolution, and 1024 Kbps bitrate:

Video format: MP4

Video codec: H.264

Video resolution: 720 (width) * proportional height of the input video

Video bitrate: 1024 Kbps

5. After selecting parameters, select the name and location of the output video in the bucket and click **Finish**.

6. Click **Start Transcoding** and wait for the transcoding to complete.

7. After transcoding is completed, the input and output videos are displayed in the left and right of the video display area respectively for you to directly compare and check the transcoding effect. You can copy the output video link or directly download the output video by clicking buttons in the bottom-right corner.

Top speed codec transcoding leverages deep learning algorithms to convert an input video to an output video with higher definition, lower noise, and higher frame rate by reducing the compression and texture distortion of the input video.

Directions

The steps of top speed codec transcoding are similar to those of audio/video file conversion, except that the output video transcoded by top speed codec is smaller and clearer.

With the video frame capturing tool, you can capture any frame in a video and save it as an image.

Directions

1. Add a video to the tool as instructed in steps 1–3 in the [Audio/Video format conversion](#) section and select frame capturing parameters.

2. After the video is added, the tool will automatically start capturing frames and display the captured frames on the right.

The video-to-animated image conversion tool can convert your video into a GIF or WebP animated image.

Directions

1. Add a video to the tool as instructed in steps 1–3 in the [Audio/Video format conversion](#) section and select video-to-animated image conversion parameters.

2. After the video is added, the tool will automatically start converting and display the output animated image on the right.

By intelligently recognizing and analyzing the characteristics of motions, events, and faces in the video, the intelligent thumbnail tool can automatically identify, capture, and save highlight frames as video thumbnails.

Directions

1. Add a video to the tool as instructed in steps 1–3 in the [Audio/Video format conversion](#) section.

2. After the video is added, the tool will automatically start analyzing the video and capturing highlight frames and display the captured frames on the right.

The digital remastering tool has video noise cancellation, super resolution, SDR to HDR, sharpening, and other capabilities. Through the combination of different capabilities, it can meet your needs for remastering old and low-quality videos.

Directions

1. Add a video to the tool as instructed in steps 1–3 in the [Audio/Video format conversion](#) section.
2. After adding the video, select the target resolution and click **Start Remastering**.

Video montage generates highlights in a video, which are convenient for secondary creation.

Directions

1. Add a video to the tool as instructed in steps 1–3 in the [Audio/Video format conversion](#) section.
2. After adding the video, select the target resolution and click **Start Processing**.

The voice/sound separation feature separates the voice from the background sound in a video material to generate a new independent audio file. Then, you can apply artistic processing of other styles to the material without accompaniment and noise.

Directions

1. Add a video or an audio to the tool as instructed in steps 1–3 in the [Audio/Video format conversion](#) section.
2. After adding the video or audio, select the output type and click **Start Processing**.

AI processing

Image tagging

Vehicle and license plate detection

The image tagging tool can identify scenes, objects, people, and other information in images. It contains thousands of tags in over 60 subcategories in 8 categories, such as natural scenery (mountain, sea, sky, sunset, etc.), man-made environment (building, playground, meeting room, etc.), people (male, female, selfie, group photo, etc.), object (food, clothing, daily necessities, etc.), and pet/wild animal (cat, dog, bird, mammal, marine animal, etc.).

Directions

1. Log in to the [COS console](#). On the left sidebar, click **Smart Toolbox**.
2. On the **Smart Toolbox** page, select **AI Processing > Image Tagging**.
3. Add an image to the tool.
4. After the image is added, the tool will automatically start analyzing the image and display image tag information on the right.

The vehicle and license plate detection tool can accurately identify the coordinates, brands, models, model years, and colors of almost all passenger cars on the market.

Directions

1. Add an image to the tool as instructed in steps 1–3 in the [Image tagging](#) section.

2. After the image is added, the tool will automatically start analyzing the image and display the vehicle and license plate information on the right.

File processing

Online file preview

The file preview tool can convert any Office documents into a webpage format that can be previewed online. After conversion, you can copy the file link to view the file in a browser.

Directions

1. Log in to the [COS console](#). On the left sidebar, click **Smart Toolbox**.
2. On the **Smart Toolbox** page, select **File Preview > Online File Preview**.
3. Add a file (e.g., a PPT file) to the tool.
4. After the PPT file is added, the tool will automatically start processing it to generate the HTML webpage for online preview. You can preview it directly or copy the link to preview it in a browser.

Specifications and Limits

Last updated : 2024-01-31 16:33:35

Category	Feature	Specifications/Limit
Basic image processing	Common limits	Supported format: JPG, BMP, GIF, PNG, WebP, as well as HEIF decoding and processing Supported size: The input image cannot exceed 20 MB, with its width and height not exceeding 30,000 pixels and the total number of pixels not exceeding 250 million. The width and height of an output image cannot exceed 9,999 pixels. For an input animated image, the total number of pixels (Width x Height x Number of frames) cannot exceed 250 million. Maximum number of frames (for GIF): 300
	Format Conversion	Supports JPG, BMP, GIF, PNG, WebP (default value: format of the input image). Converting GIF into HEIF is not supported.
	Quality Conversion	Supports JPG and WebP only.
	Progressive Display	Supports JPG only. If the format of the output image is not JPG, this parameter will be ignored.
	Pipeline Operator	Performs multiple operations on an image in sequence. Currently, up to 10 layers of pipelines are supported.
Advanced features	Guetzli Image Compression	Supports only JPG images whose quality is larger than 70 and the total number of pixels is smaller than 4 million.
	Image Advanced Compression	Format: supports converting JPG, PNG, GIF, WebP, and other formats into TPG or HEIF. Size: The input image cannot exceed 20 MB, with its width and height not exceeding 30,000 pixels and the total number of pixels not exceeding 250 million. The width and height of an output image cannot exceed 9,999 pixels. For an input animated image, the total number of pixels (Width x Height x Number of frames) cannot exceed 250 million. Maximum number of frames (for GIF): 300
	Blind watermarking	Adding blind watermark to animated images such as GIF is not supported. Width or height of the image watermark cannot be larger than 1/8 of the input image. A text watermark can contain only numbers (0–9) and English letters (A–Z, a–z).
Media	Video	Supports AVI, MP4, MKV, FLV, HLS, TS, MP3, AAC, FLAC, and more.

processing	Processing	
Content moderation	Image Moderation	Supports PNG, JPEG, JPG, BMP, WebP, and GIF. An image cannot be larger than 10 MB. To ensure recognition accuracy, the image resolution should not be lower than 256x256.
	Video Moderation	Supports MP4, AVI, MKV, WMV, RMVB, FLV, and M3U8. A video cannot be larger than 5 GB and the number of frames cannot be more than 100 thousand.
	Audio Moderation	Supports MP3, WAV, AAC, FLAC, AMR, 3GP, M4A, WMA, OGG, and APE. Audio bitrate: 128–256 kbps Audio size: smaller than 600 MB Maximum duration: 3 hours
	Text Moderation	Supports TXT files not larger than 1 MB only.
Content recognition	QR Code Recognition, Image Label Recognition	Supports PNG, JPEG, and JPG. An image cannot be larger than 3 MB and the resolution should be higher than 50x50.
	Speech Recognition	Supports Mandarin, English, and Cantonese. Supported format: WAV, MP3, M4A An audio file cannot be longer than 5 hours or larger than 512 MB.
	Face Filter	A Base64-encoded image cannot be larger than 5 MB. PNG, JPG, JPEG, and BMP are supported, while GIF is not supported. To use portrait segmentation, the image resolution must be lower than 2000×2000.
	ID Card Recognition	A Base64-encoded image cannot be larger than 7 MB, and a resolution higher than 500×800 is recommended. Supported formats are PNG, JPG, JPEG, and BMP. It is recommended that the ID card should occupy over 2/3 of the image.
	Face ID	The Base64-encoded video cannot be larger than 8 MB. Supported formats are MP4, AVI, and FLV.
File preview	File Preview	1. Supported format: Presentation file: PPTX, PPT, POT, POTX, PPS, PPSX, DPS, DPT, PPTM, POTM, PPSM Text file: DOC, DOT, WPS, WPT, DOCX, DOTX, DOCM, DOTM Form file: XLS, XLT, ET, ETT, XLSX, XLTX, CSV, XLSB, XLSM, XLTM, ETS Other file: PDF, LRC, C, CPP, H, ASM, S, Java, ASP, BAT, BAS, PRG, CMD, RTF, TXT, LOG, XML, HTM, HTML 2. Supports previewing files within 200 MB with no more than 5,000 pages.

	Privacy Compliance Protection	Supported format: MS office file: DOC, DOCX, PPT, PPTX, XLS, XLSX, RTF WPS file: WPS, DPS, ET PDF Plain text file: TXT, XML, SLK HTML, MSG Email: EML, PST
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