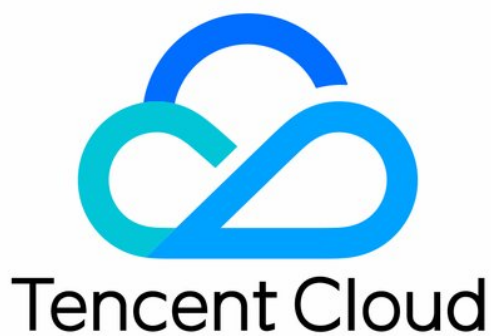


Cloud Infinite

Product Introduction

Product Documentation



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Contents

Product Introduction

Product Overview

Feature Overview

Regions and Domains

Specifications and Limits

Product Introduction

Product Overview

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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

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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 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 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 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 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.
	FacelD	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
Document processing	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

Regions and Domains

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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
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).

Specifications and Limits

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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 2000x2000.
	ID Card Recognition	A Base64-encoded image cannot be larger than 7 MB, and a resolution higher than 500x800 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	<p>1. Supported format:</p> <p>Presentation file: PPTX, PPT, POT, POTX, PPS, PPSX, DPS, DPT, PPTM, POTM, PPSM</p> <p>Text file: DOC, DOT, WPS, WPT, DOCX, DOTX, DOCM, DOTM</p> <p>Form file: XLS, XLT, ET, ETT, XLSX, XLTX, CSV, XLSB, XLSM, XLTM, ETS</p> <p>Other file: PDF, LRC, C, CPP, H, ASM, S, Java, ASP, BAT, BAS, PRG, CMD, RTF, TXT, LOG, XML, HTM, HTML</p> <p>2. Supports previewing files within 200 MB with no more than 5,000 pages.</p>

	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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