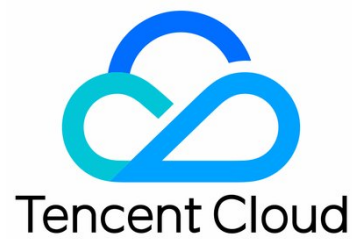


# **Cloud Object Storage**

## **Product Introduction**

## **Product Documentation**



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## Contents

### Product Introduction

Overview

Regions and Access Domain Names

Features

Specifications and Limits

Service Level Agreement

Update Announcement

# Product Introduction

## Overview

Last updated : 2019-09-12 17:36:47

### Overview

Cloud Object Storages (COS) is a distributed storage service provided by Tencent Cloud to store massive files. You can store and view data at any time over network. Tencent Cloud COS provides scalable, affordable, reliable and secure data storage services for all users.

You can gain the access to COS easily via console, API, SDK or tools to store and manage massive data. COS allows you upload, download and manage files in different formats using its user-friendly Web interface. The CDN nodes distributed nationwide can accelerate your file download.

### COS Class

COS is available in three classes depending on the access frequency: COS Standard, COS Infrequent Access, and Archive Storage.

Default is COS Standard.

#### COS Standard

**Use Cases:** Hotspot videos, social images, mobile Apps, game programs, and dynamic websites.

COS Standard is an object storage service with high reliability, availability, and performance.

Its low latency and high throughput make it well suitable for the use cases involving lots of hotspot files or frequent data access.

#### COS Infrequent Access

**Use Cases:** Network disk data, big data analysis, government and enterprise business data, infrequently-accessed archives, and monitoring data.

COS Infrequent Access is a reliable object storage service with low storage cost and low access latency.

COS Infrequent Access is provided at a low storage cost, and enables you to access the first byte in milliseconds. You can retrieve the data quickly without waiting. The data retrieval is chargeable, so this storage class is suitable for the use cases involving infrequent access.

#### Archive Storage

**Use Cases:** Archive data, medical images, scientific data, and film and video materials.

Archive Storage is a highly reliable object storage service that has ultra-low storage cost and long-term data retention.

Featuring the lowest storage price, Archive Storage needs a longer time to read data and is suitable for archived data that needs to be stored for a long time.

#### Comparison

	COS Standard	COS Infrequent Access	Archive Storage
Response	In milliseconds	In milliseconds	Request for recovery is required in advance
Minimum billing period	-	30 days	90 days
Supported regions	All regions	All regions	Public cloud regions Only
Storage fee	Standard	Low	Extra-low
Data retrieval fee	-	Low	High
Read/Write request fee	Extra-low	Low	Extra-low (read/write only after recovery)

## Related Documents

See the following documents for information on the regions, features and specifications supported by Tencent Cloud COS.

- [Regions & Endpoints](#)
- [Features](#)
- [Specifications and Use Limits](#)

See the following documents to learn about the basic elements of Tencent Cloud COS: buckets and objects.

- [Bucket Overview](#)
- [Object Overview](#)

# Regions and Access Domain Names

Last updated : 2019-09-12 16:38:21

## Overview

Tencent Cloud COS supports multi-region storage, and the default access domain name varies by region. The region selected when a bucket is created cannot be modified. You are advised to select a local region for storage based on your own business needs for faster object upload and download.

- After a bucket is created, the corresponding default domain name will be generated, which can be viewed in **Domain Name Management** of the bucket in the [COS Console](#).
- BucketName is the custom name you enter when you create a bucket. For more information, see [Bucket Naming Convention](#).
- APPID is the account you get after you successfully register a Tencent Cloud account. It is automatically assigned by the system as a unique permanent ID, which can be viewed in **Account Information** in the [Tencent Cloud Console](#).
- Finance cloud regions cannot interconnect with other public cloud regions.

### Mainland China

Region		Region Abbreviation	Default Domain Name (Upload/Download/Management)	
Mainland China	Public cloud regions	Beijing Zone 1 (sold out)	ap-beijing-1	<BucketName-APPID>.cos.ap-beijing-1.myqcloud.com
		Beijing	ap-beijing	<BucketName-APPID>.cos.ap-beijing.myqcloud.com
		Shanghai (East China)	ap-shanghai	<BucketName-APPID>.cos.ap-shanghai.myqcloud.com
		Guangzhou (South China)	ap-guangzhou	<BucketName-APPID>.cos.ap-guangzhou.myqcloud.com
		Chengdu (Southwest China)	ap-chengdu	<BucketName-APPID>.cos.ap-chengdu.myqcloud.com
		Chongqing	ap-chongqing	<BucketName-APPID>.cos.ap-chongqing.myqcloud.com
	Finance cloud regions	Shenzhen Finance	ap-shenzhen-fsi	<BucketName-APPID>.cos.ap-shenzhen-fsi.myqcloud.com
		Shanghai Finance	ap-shanghai-fsi	<BucketName-APPID>.cos.ap-shanghai-fsi.myqcloud.com
		Beijing Finance	ap-beijing-fsi	<BucketName-APPID>.cos.ap-beijing-fsi.myqcloud.com

### Outside Mainland China

Region		Region Abbreviation	Default Domain Name (Upload/Download/Management)	
Asia Pacific	Public cloud regions	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
North America	Silicon Valley	na-siliconvalley	<BucketName-APPID>.cos.na-siliconvalley.myqcloud.com	

	Virginia	na-ashburn	<BucketName-APPID>.cos.na-ashburn.myqcloud.com
	Toronto	na-toronto	<BucketName-APPID>.cos.na-toronto.myqcloud.com
Europe	Frankfurt	eu-frankfurt	<BucketName-APPID>.cos.eu-frankfurt.myqcloud.com
	Moscow	eu-moscow	<BucketName-APPID>.cos.eu-moscow.myqcloud.com

Example:

If you create a bucket named `examplebucket` in the **Guangzhou** region and your APPID is 1250000000, then the default domain name of the bucket is:

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

## Private Network and Public Network Access

The access domain names of COS use intelligent domain name resolution, so that your requests to COS can be routed through the optimal link in case of cross-ISP access.

If you deploy a service in Tencent Cloud to access COS, intra-region access requests will be automatically directed to a private network address. Cross-region requests do not support private network access for the time being and will be resolved to a public network address by default.

For more information on private network and public network access, see [Overview of Request Creation](#).

# Features

Last updated : 2019-09-17 15:09:56

Before using COS, read [COS Glossary](#) to learn the basics of using COS: bucket, object, region, access domain name, etc.

COS provides the following features:

Feature	Description
<a href="#">Creating Bucket</a>	You need to create a bucket before uploading objects to COS.
<a href="#">Deleting Bucket</a>	Deletes the existing empty buckets. To delete a bucket, you first need to delete all objects in it and incomplete multipart uploads in <b>Incomplete Upload</b> .
<a href="#">Querying Bucket</a>	Queries the created buckets.
<a href="#">Setting Bucket Access Permission</a>	COS supports setting bucket access permission, and provides access policies and Access Control Lists (ACLs). For more information, see <a href="#">Basic Concepts of Access Control</a> .
<a href="#">Setting Hotlink Protection</a>	COS is billed based on the actual usage. To reduce additional costs incurred due to hotlinking of your COS data, COS supports setting hotlink protection to ensure security.
<a href="#">Setting Origin-pull</a>	An origin server address is set to read the data retrieval requests in multiple origin-pull ways, to meet the needs of hot migration of data and redirection of specific requests.
<a href="#">Setting Cross-Origin Access</a>	COS provides the settings of cross-origin access in the HTML5 standard to allow cross-origin access. For this purpose, COS supports responding to OPTIONS requests and returning specific setting rules to browsers according to the rules set by developers.
<a href="#">Setting up a Static Websites</a>	By configuring a bucket for static website hosting, you can access the static website using the domain name of the bucket.
<a href="#">Setting Lifecycle</a>	COS supports user-defined rules and will automatically delete specified objects or change the storage class after certain time (days).
<a href="#">Accessing Bucket List Using Sub-Account</a>	The sub-account is granted access to buckets and bucket list by the root account.
<a href="#">Adding Bucket Policy</a>	Users can add policies to a bucket to allow or deny access to COS resources by an account or source IP (or IP segment).
<a href="#">Deleting Incomplete Multipart Uploads</a>	Users can delete partially uploaded fragmented files.
<a href="#">Setting CDN Acceleration</a>	You can bind custom domain names to the access domain name of COS through domain management, and thus the objects of your bucket can be accessed using custom domain names. You can also quick configure Tencent Cloud CDN to enable acceleration.
<a href="#">Uploading Object</a>	Objects(such as text files, images, videos, Apps, etc.) can be uploaded to a bucket.
<a href="#">Downloading Object</a>	Objects can be downloaded in multiple ways.
<a href="#">Viewing Object Information</a>	You can check the attributes (such as size and address) and configurations (setting object access permission, changing storage class, etc.).
<a href="#">Searching for Objects</a>	You can search for objects in buckets or folders by prefix.
<a href="#">Modifying Storage Class</a>	Modify the storage class for objects uploaded to COS.
<a href="#">Setting Object Access Permission</a>	Object access permission allows access control at object dimension and has a higher priority than bucket access permission.
<a href="#">Setting Object Encryption</a>	Encrypt the object stored in the bucket to avoid information leakage.
<a href="#">Custom Headers</a>	Sets HTTP headers for an object.
<a href="#">Deleting Object</a>	Deletes an object or objects in batch.
<a href="#">Restoring Archived Objects</a>	Restores archived objects so that you can access them or perform other operations.



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Feature	Description
<a href="#">Creating Folder</a>	Folders can be created to manage and classify data stored in COS.
<a href="#">Deleting Folder</a>	A folder and all files in it can be deleted.
<a href="#">API Documentation</a>	Provides API operations supported by COS and the related operation examples.
<a href="#">SDK Documentation</a>	Provides SDK development operations and related samples for mainstream languages.

# Specifications and Limits

Last updated : 2019-09-05 18:02:18

Category	Specifications and Limits	Description
QPS	Limits	1200 QPS per root account. For higher QPS, see <a href="#">Request Rate and Performance Optimization</a>
Bandwidth	Limit	COS does not limit upload and download bandwidth, and the speed of the upload and download depends on your local bandwidth.
Storage Class	COS Standard	Billing limits: There is no limit imposed on the storage time and storage size. For more information on COS standard billing, see <a href="#">Product Pricing</a>
	COS Infrequent Access	Billing limits: Storage time less than 30 days is calculated by 30 days. Storage size less than 64 KB is calculated by 64 KB. For more information on COS Infrequent Access billing, see <a href="#">Product Pricing</a>
	Archive Storage	Billing limits: Storage time less than 90 days is calculated by 90 days. Storage size less than 64 KB is calculated by 64 KB. For more information on Archive Storage billing, see <a href="#">Product Pricing</a>
Bucket	Limits	<ol style="list-style-type: none"> <li>When the bucket has been created, the name and region cannot be modified.</li> <li>The names of all buckets under the same user account are unique and cannot be changed.</li> <li>The name only supports lowercase letters, numbers [a-z, 0-9], dashes (-) and the combination of them with a length of 1-50 characters.</li> </ol>
	Number of buckets	A maximum of 200 (default) buckets per root account
	Number of objects	For each bucket, the number of objects is not limited.
Object	Limits	Object key length should be between 1 byte and 850 bytes. For more information, see <a href="#">Object Overview</a>
	Upload	<ol style="list-style-type: none"> <li>The maximum size of an object to be uploaded from the console is 512 GB.</li> <li>The maximum size of a single object to be uploaded via API/SDK is 48.82 TB (50,000 GB).</li> </ol> Upload API specifications: <ol style="list-style-type: none"> <li>Simple upload: 5 GB at most, For more information, see <a href="#">Simple Upload</a></li> <li>Multipart upload: 48.82 TB maximum for a single object. The part size is 1 MB to 5GB. The size of the last part can be less than 1 MB, and the number of parts is 1 to 10,000, For more information, see <a href="#">Multipart Upload</a></li> </ol>
	Copy	<ol style="list-style-type: none"> <li>Regional/Cross-region object copy is supported.</li> <li>Object copy in the same region is free of charge. Cross-region object copy incurs traffic charges. For more information, see Traffic Cost in <a href="#">Product Pricing</a>.</li> <li>Copy API specifications:               <ol style="list-style-type: none"> <li>Simple copy: 5 GB at most, For more information, see <a href="#">Simple Copy</a></li> <li>For size of more than 5 GB, multipart copy must be applied. The maximum size of an object to be copied is 48.82 TB, For more information, see <a href="#">Multipart Copy</a></li> </ol> </li> </ol>
	Batch Deletion	Up to 1,000 objects can be deleted in batch via API/SDK.
Access Policy	Number of Rules	The sum of policies associated with the ACLs, Policies and CAMs of buckets and objects is limited to 1,000 per each root account (with the same APPID).
Lifecycle	Number of Rules	Up to 1,000 rules can be created for a bucket.

	Storage class transition	COS Standard to COS Infrequent Access: 1 day at least COS Standard/COS Infrequent Access to Archive Storage: 1 day at least
	Expired Object Deletion	Expired object deletion for COS Standard/COS Infrequent Access/Archive Storage: 1 day at least
SDK Type		12 types: Andriod, C, C++, C#, Go, iOS, Java, JavaScript, Node.js, PHP, Python, Mini Program SDK

# Service Level Agreement

Last updated : 2019-03-05 10:36:02

In order to use the Tencent Cloud Object Storage ("COS") service (the "Service"), you should read and observe this Cloud Object Storage Service Level Agreement (this "Agreement", or this "SLA") and the [Tencent Cloud Service Agreement](#). This Agreement contains, among others, the terms and definitions of the Service, level indicators of the Service availability and success rate, compensation plan and release of liabilities. Please carefully read and fully understand each and every provision hereof, and the provisions restricting or releasing certain liabilities, or otherwise related to your material rights and interests, are in bold font or underlined or otherwise brought to your special attention.

Please do not purchase the Service unless and until you have fully read, and completely understood and accepted all the terms hereof. By clicking "Agree"/ "Next", or by purchasing or using the Service, or by otherwise accepting this Agreement, whether express or implied, you are deemed to have read, and agreed to be bound by, this Agreement. This Agreement shall then have legal effect on both you and Tencent Cloud, constituting a binding legal document on both parties.

## 1. Terms and Definitions

**Cloud Object Storage (COS):** Object storage means a storage service that enables a user to store massive amounts of data using a Web interface. A user may upload, download and manage data via the HTTP REST API of the COS. COS supports automatic expansion, and the payment for the Service may be made in advance or in arrears.

**Service Month(s):** Service Month(s) means the calendar month(s) within the term of the Service purchased by you. For example, if you purchase the Service for a term of three months starting from March 17, there will be four (4) Service Months (the first Service Month from March 17 to March 31, the second from April 1 to April 30, the third from May 1 to May 31, and the fourth from June 1 to June 16). The availability of the Service will be calculated independently for each Service Month.

**Error Rate Per Five Minutes:** Error Rate Per Five Minutes means the rate of the number of Failed Requests returned by COS within five (5) minutes to the total number of user requests within such five (5) minutes, calculated as follows:

$$\text{Error Rate Per Five Minutes} = \frac{\text{number of Failed Requests per five minutes}}{\text{total number of user requests per five minutes}} * 100\%$$

**Failed Request:** Failed Request means a request with a server internal error code (including "Internal Error" (500 error) and "Service Unavailable" (503 error)) returned by COS, excluding any traffic restriction request due to the triggering of frequency control and any Failed Request due to the upgrade, alteration or shutdown of COS. User request means a request sent by a user and received by a COS server, excluding that sent by a user whose identity has not been authenticated, whose authentication fails, or for whom the Service is suspended or terminated due to unpaid overdue payment. Any request received by a COS server in a hacker attack, or any request asynchronously executed on back end with the configuration of cross-regional replication or life cycle rules, will not be deemed an effective or a Failed Request.

**COS Service Monthly Fee:** COS Service Monthly Fee means the fee for storing capacity, flow, request, data retrieval and other storage management fee incurred under a certain Tencent Cloud account of a user within a calendar month for using the COS Service.

## 2. Service Availability

### 2.1 Calculation of Service Availability

The Service Availability of the COS is calculated by the category of storage as follows:

$$\text{Service Availability} = \left(1 - \frac{\text{the sum of all Error Rates Per Five Minutes within a Service Month}}{\text{the total number of unit time (i.e. five minutes) within a Service Month}}\right) * 100\%$$

### 2.2 Standards of Service Availability

You may upload, download and manage data via the API, SDK, control panel or user tools provided by the COS. In respect of different categories of storage, Tencent Cloud guarantees that **the Service Availability of the standard storage service will be no less than 99.95%**, and **the Service Availability of the low frequency storage will be no less than 99.9%**. If the Service Availability fails to meet aforementioned standard in a Service Month (other than circumstances set forth in the Release of Liabilities Section below), you may submit a support ticket to make an application to Tencent Cloud in accordance with Section 3 below.

### 3. Service Compensation

In respect of this Service, if the Service Availability of the standard storage service is lower than 99.95%, or the Service Availability of the low frequency storage is lower than 99.9%, compensations will be made as follows:

#### 3.1 Standards of Compensation

- 1) Compensations will be made **in the form of coupon** by Tencent Cloud, and you should follow the rules for using the coupon (including the valid term; for details, please refer to the rules of coupons published on Tencent Cloud's official website). You cannot redeem such coupon for cash or request to issue an invoice for such coupon. Such coupon can only be used to purchase the Service by using your Tencent Cloud account. You cannot use the coupon to purchase other services of Tencent Cloud, nor should you give the coupon to a third party for consideration or for free.
- 2) If the Service Availability in a Service Month fails to meet the standard, the amount of compensation shall be calculated for such month independently, and **the aggregate amount will be no more than the applicable COS Service Monthly Fee paid by you for such month** (for the purpose of this provision, COS Service Monthly Fee shall exclude the portion deducted by a coupon or promotional voucher, due to discounted service fee or otherwise deducted).

Storage Category	Service Availability in a Service Month	Value of Compensation Coupon
Standard Storage	≥ 99% and < 99.95%	20% of the COS Service Monthly Fee
	< 99%	50% of the COS Service Monthly Fee
Low Frequency Storage	≥ 98% and < 99.9%	20% of the COS Service Monthly Fee
	< 98%	50% of the COS Service Monthly Fee

#### 3.2 Time Limit for Compensation Application

- 1) If the Service Availability in a Service Month fails to meet the aforementioned Service Availability standard, you may apply for compensation **through (and only through) the support ticket system under your relevant account** after the fifth (5th) business day of the month immediately following such Service Month. Tencent Cloud will verify and ascertain your application upon receipt of such application. If there is any dispute over the calculation of the Service Availability for a Service Month, **both parties agree that the back-end record of Tencent Cloud will prevail.**
- 2) You should apply for such compensation no later than sixty (60) calendar days following the expiry of the Service Month in which the Service Availability fails to meet the standard. If you fail to make any application within such period, or make the application after such period, or make the application by any means other than that agreed herein, it shall be deemed that you have voluntarily waived your right to apply for such compensation and any other rights you may have against Tencent Cloud, in which case Tencent Cloud has the right to reject your application for compensation and not to make any compensation to you.

### 4. Release of Liabilities

**If the Service is unavailable due to any of the following reasons, the corresponding Service unavailable time shall not be counted towards Service unavailability period, and is not eligible for compensation by Tencent Cloud, and Tencent Cloud will not be held liable to you:**

- 4.1 any system maintenance or unavailability with at least seven (7) days prior notice from Tencent Cloud to users.
- 4.2 any failure due to any network, equipment or configuration that is not Tencent Cloud facility.
- 4.3 any failure of the application interface or data of a user due to attack or other misconducts.
- 4.4 any failure due to negligence in authorization or mal-operation by a user, or due to any equipment of user, or third-party software or device.
- 4.5 any failure due to any force majeure event or accident.
- 4.6 any Service unavailability or failure to meet Service Availability standard due to any reason not attributable to Tencent Cloud.
- 4.7 any other circumstances in which Tencent Cloud will be exempted or released from its liabilities (for compensation or otherwise) according to relevant laws, regulations, agreements or rules, or any rules or guidelines published by Tencent Cloud separately.

### 5. Miscellaneous

- 5.1 The parties hereto acknowledge and agree that, for any losses incurred by you during the course of using the Service due to any breach by Tencent Cloud, the aggregate compensation amount payable by Tencent Cloud shall under no circumstance exceed the total service fees you have paid for the relevant Service which is not performed.

5.2 Tencent Cloud has the right to amend the terms of this Agreement as appropriate or necessary in light of changes in due course. You may review the most updated version of relevant Agreement terms on the official website of Tencent Cloud. If you disagree with such revisions made by Tencent Cloud to this Agreement, you have the right to cease using the Service; by continuing to use the Service, you shall be deemed to have accepted the Agreement as amended.

5.3 As an ancillary agreement to the Tencent Cloud Service Agreement, this Agreement is of the same legal effect as the Tencent Cloud Service Agreement. In respect of any matter not agreed herein, you shall comply with relevant terms under the Tencent Cloud Service Agreement. In case of any conflict or discrepancy between this Agreement and the Tencent Cloud Service Agreement, this Agreement prevails to the extent of such conflict or discrepancy. (End of Document)

# Update Announcement

Last updated : 2019-09-12 17:37:06

## 6/20/2019 Update

COS Versioning and Cross-region Replication are available.

## 6/10/2019 Update

COS Custom Origin Domain is available.

## 6/3/2019 Update

COS inventory feature is available.

## 5/10/2019 Update

COS bucket tagging is available.

## 4/26/2019 Update

COS supports direct transfer archiving.

## 11/12/2018 Update

### Price reduction in Chengdu and Chongqing

On November 1st, 2018, COS archive storage price was reduced to 0.03 CNY/GB/month in Chengdu and Chongqing.

### Billing

COS archive storage in Mainland China can be billed in US dollars.

## 8/1/2018 Update

### New console is launched in beta test

1. More regions are supported: The new console comes with new APIs and supports more regions.
2. New features: The new console supports lifecycle and other features.

- The documents on the official website that describe features, examples and other aspects will be updated synchronously with the new console interface.
- New features will be only released on the new console.

## 5/24/2018 Update

### Price reduction in Chengdu and Chongqing

On June 1st, 2018, the COS price was reduced by up to 24% in Chengdu and Chongqing.

## 12/15/2017 Update

### Daily billing is available for COS

To keep users updated on traffic usage and fees, the billing period of traffic consumed for COS is changed from **Monthly** to **Daily**, and other items are still billed **monthly**.