

Cloud Virtual Machine

Storage

Product Introduction



Tencent
Cloud

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Storage

Overview

Tencent Cloud provides a wide range of flexible, economic and user-friendly data storage devices for the CVM instances. Various storage devices are provided to cater for different usage scenarios. The performance and price varies with the category of storage device. Storages can be divided into the following categories by dimensions:

Dim Cate Description

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ons es

Stor HDD Use mechanical

age hard hard disk as the

medidisk storage medium. It

um is characterized by

a lower price and a

better read/write

speed.

SSD Use Solid State

hard Drive (SSD) as the

disk storage medium. It

has an excellent

performance in

IOPS and read/write

speed. It can

achieve an IOPS

and throughput up

to 20 times and 16

times higher than

those of ordinary

hard disk,

respectively. It is

more expensive

than ordinary hard

disks.

Storage System Used to store the
image and collection of
content disk systems that control
operations and schedule the
operation of CVM.
It is operated by
using image.

Data Used
disk to
store
all
the
user
data.

Arch Cloud disk is an
abstracted elastic, highly
available, highly
reliable low-cost
and customizable
network block
device, which can
be used as a
standalone scalable
hard disk for CVM.
It provides data
storage at data
block level and
employs a 3-copy
distributed
mechanism, thus
ensuring the data
reliability for CVM.
[For a CVM using](#)

cloud disks,
adjustments can be
made to hardware,
disks and network.

Local disks

Local disks

Local disks

comes

from

the

local

storage

of

the

physical

machine

where

the

CVM

resides.

It

is a

storage

area

reserved

on

the

physical machine where the CVM resides. It allows the data access to be achieved with a low latency, but involves a risk of single point failure.

A
CVM

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Cloud Disks

Cloud Block Storage is a persistent storage device at data block level. You can use it in the same way as you use an external hard disk for a computer. Cloud Block Storage is featured by high availability and high reliability and employs distributed storage technology to ensure a data availability of not less than 99.99%. It is suitable to be used as a main storage device (such as file system and database) for the data that requires frequent and fine-grained updates.

You can mount multiple elastic Cloud Block Storages to one instance, or dismount them from one instance and mount to another instance at any time. With its life cycle being independent of CVM instances, elastic Cloud Block Storage can be stored independently as a storage medium for important data.

You can keep a backup copy of data by creating a snapshot for Cloud Block Storage. You can also create a new Cloud Block Storage from the snapshot at any time and connect it to another instance. For more information about Cloud Block Storage, see [Tencent Cloud Cloud Block Storage product documentation](#).

Local Disks

Local disk is a storage medium located on the same physical machine as the CVM instance and can provide low-latency storage for the instance. The data on the local disk will only be retained for the life cycle of CVM instance and will be lost when the CVM is destroyed. For more information, see [Local Disk](#).

Cloud Object Storage (COS)

Tencent Cloud COS is a data storage device located on the Internet. It allows data retrieval from any location on CVM instance or the Internet, thus reducing the storage cost. For example, you can use COS to store the backup copies of data and applications. For more information, see [Tencent Cloud COS product documentation](#).

Block storage device mapping

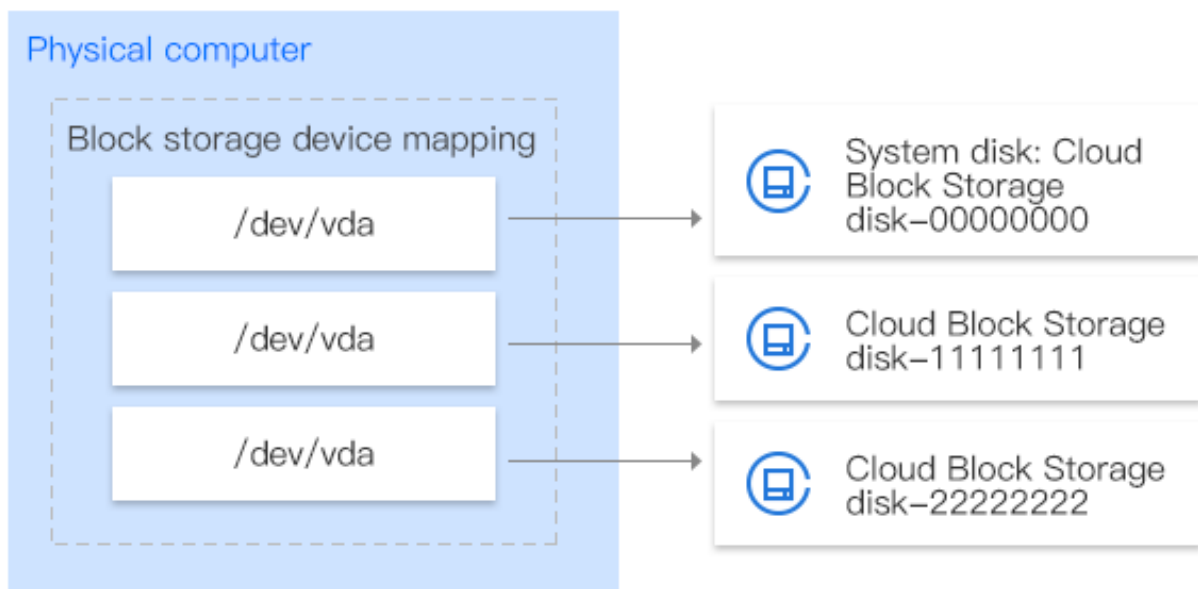
Each instance has a system disk to keep the basic operation data. More data disks can be mounted to

an instance. How to identify these storage devices in an instance? In fact, an instance uses block storage device-mapping to map the storage devices to locations that can be identified by it.

Block storage is a storage device that puts data into blocks in bytes and allows random access.

Tencent Cloud supports two types of block storage devices:

- Local disk
- Cloud disk



This figure shows how CBS maps the block storage device to the CVM and maps `/dev/vda` to the system disk, and how it maps the two data disks to `/dev/vdb` and `/dev/vdc` respectively.

The CVM instance can automatically create block storage device mapping for the local disk and cloud disk that are mounted to it.

Cloud Block Storage

Tencent Cloud's Cloud Block Storage provides storage at data block level for CVM instances. As a storage medium with high availability and high reliability, Tencent Cloud's Cloud Block Storage comes with a variety of hard drives to cater to the diversified needs of users in read/write operations. For more information about Cloud Block Storage, see [Cloud Block Storage product documentation](#).

In case of frequent data changes that require faster read/write speed and persistent storage, you're recommended to use Tencent Cloud's Cloud Block Storage. Cloud disks can be mounted to any running instance in the same availability zone, just like an ordinary mobile hard disk. It is particularly suitable to be used as such application like instance's file system and database storage, with data existing independently of instance's life cycle.

For more information, see:

- [Technical architecture of Tencent Cloud CBS](#)
- [Price of Tencent Cloud CBS](#)

Local Storage

Local disk is a storage device located on the same physical server as the CVM instance and is featured by high read/write IO and low latency. Local disk comes from the local storage of the physical machine where the CVM resides. It is a storage area reserved on the physical machine where the CVM resides. It is advised to choose local disk for both system disk and data disk. In addition, in case of the purchase of a High IO model, only SSD local disk is recommended. However, a CVM for which local disk is selected DOES NOT support the upgrade of hardware (CPU, memory) and only supports upgrade of bandwidth.

Lifecycle of local disk

Since the local disk can only be created following CVM instances, it will be started and stopped with the life cycle of CVM.

Types of local disks

The local disk is a local storage located on the physical machine where the CVM resides. By storage media, local disks are classified into local HDD and SSD local disk.

Local HDD

The local HDD is a local storage located on the physical machine where the CVM instances reside. It is a part for storage separated from the physical machine where the CVM instances are located. You cannot upgrade hardware (CPU and memory) in CVM with local disk, except the bandwidth.

Specifications	Performance	Price
System disk: a fee-free capacity of 20 GB. You can choose to buy disks of a larger capacity. It supports a maximum of 50 GB (Linux) A fee-free non-expandable	Reading and writing speed of more than 80 MB/S	Postpaid: USD \$0.01/100 GB/hour

Specifications	Performance	Price
<p>capacity of 50 GB (Windows).</p> <p>Data disk: the local HDD supports the capacity from 10 GB up to 1,000 GB (in 10 GB increments), and its maximum capacity to be selected varies with the specific hardware configuration.</p>		

SSD local disk

The SSD local disk is a local storage located on the physical machine where the CVM resides, providing instances with block-level data access with low latency, high random IOPS, and high I/O throughput.

Specifications	Performance	Price
<p>System disk:</p> <p>a fee-free capacity of 20 GB (Linux)</p> <p>A fee-free non-expandable capacity of 50 GB (Windows)</p> <p>Data disk: the SSD local disk supports the capacity from 10 GB up to 250 GB (in 10 GB increments), and its maximum capacity to be selected varies with the specific hardware configuration.</p>	Throughput of up to 300 MB/s and 30,000 random IOPS	Postpaid: USD \$0.03/100 GB/hour

SSD local disk is suitable for the following scenarios:

- Low latency: the access latency in microseconds
- Distributed application: NoSQL, MPP data warehouse, distributed file system and other I/O intensive applications. These applications have their own distributed data redundancy.
- Logs for large online applications: large online applications can produce a large amount of log data and require high-performance storage, while the log data does not require highly reliable storage.
- Single point of failure (SPOF) risks: There are the potential SPOF risks. It is recommended to implement data redundancy at the application layer to ensure data availability.

Purchasing local disks

Since the local disk can only be started together with the launch of CVM, you can just specify the local disks when purchasing CVM instances. For more information, please refer to the [Purchase and Start an Instance](#).

Cloud Object Storage (COS)

Tencent Cloud's object storage COS is a data storage device located on the Internet and provides users with a fast and reliable data storage solution for a low price. Users can store and retrieve data via any location on CVM instance or the Internet. COS stores user data redundantly across multiple regions and allows multiple clients or application threads to perform read/write operations on those data at the same time. The data on the COS can be retrieved in a similar way to Internet domain names and be accessed by using a HTTP URL address.

For more information about Tencent Cloud Object Storage, see [COS product documentation](#).