Dedicated Computing Cluster

Service Overview

Issue 01

Date 2025-02-08

HUAWEI TECHNOLOGIES CO., LTD.

Trademarks and Permissions


and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to the *Vul. Response Process.* For details about this process, visit the following web page:
https://www.huawei.com/en/psirt/vul-response-process
For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

Contents

1 What Is DCC?

Dedicated Computing Cluster (DCC) provides dedicated, physically isolated computing resource pools on the cloud service platform, allowing you to use physical computing devices and resources exclusively.

You can apply for a host machine in your resource pool to host your own Elastic Cloud Servers (ECSs).

DCCs must be used in DeCs. So, you need to apply for a DeC before using your DCCs. Then you can centrally manage your DCCs in the DeC.

2 Functions

- Computing isolation

  Dedicated computing resource pools are deployed in separate physical server clusters to ensure that cloud servers run in physically isolated DCCs.

- Flexible deployment

  Multiple computing clusters can be deployed in multiple AZs in different regions. It can be interconnected with Dedicated Distributed Storage Service (DSS). You can configure your own VPCs. Security group rules are also provided for you to build up an all-around protection network.

- Flexible creation

  You can specify different dedicated computing resource pools on dedicated physical servers to host your ECSs. The HA function is supported for ECSs.

- Resource management

  You can view the physical servers and computing resource usage in your DCC as well as ECSs on these physical servers, enabling you to manage computing resources easily.

3 Application Scenarios

- Industries with high requirements for security

  For different users, computing resources are physically isolated and network resources are logically isolated. Distributed storage and various security protection products are used to build up a well-rounded secure environment for you.
- Industries with high requirements for stability

  Physical resources are exclusive for your use, ensuring the stable running of your services.
- Industries with high requirements for flexibility

  You can create or delete resources anytime, and quickly restore an environment with Image Management Service (IMS) and Volume Backup Service (VBS). You can also obtain information about resource consumption based on the resource browsing function.

4 Categories and Types

4.1 Overview

The DCC category and type define the DCC configuration and determine the type and number of ECSs you can create in a DCC.

The DCC configuration includes the number of CPUs (sockets), number of physical cores, hardware configuration (CPU model and memory size), and number of vCPUs. Buy DCCs of desired specifications based on the site requirements.

Currently, the following DCC categories are supported:

- **General computing**
- **General computing-plus**
- **Memory-optimized**
- **Kunpeng general computing-plus**

4.2 General Computing DCCs

Overview

General-computing DCCs can accommodate ECSs with regular workloads and short-term workload surges. They use a CPU-unbound scheduling scheme. vCPUs are randomly allocated to idle CPU hyper threads based on the system loads. If traffic loads are light, the computing performance is high. However, if traffic loads are heavy, vCPUs of different ECSs compete for physical CPU resources, resulting in unstable computing performance. ECSs can support regular workloads and cope with short-term load surges.

General computing DCCs are classified into s3, s7, s3_pro, s6, and s6_pro types, providing better cost-effectiveness. S3, S7, and S6 ECSs can be deployed on the general computing DCCs.

DCC Specifications

Table 4-1 Specifications of s3 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
s3	2	22	• CPU: Intel® Xeon® Skylake 6161 v5 (frequency: 2.20 GHz; Turbo frequency: 3.00 GHz) • Memory: 288 GB (or 294,912 MB)	144

Table 4-2 Specifications of s3_pro DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
s3_pro	2	22	• CPU: Intel® Xeon® Skylake 6161 v5 (frequency: 2.20 GHz; Turbo frequency: 3.00 GHz) • Memory: 576 GB (or 589,824 MB)	144

Table 4-3 Specifications of s6 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
s6	2	26	• CPU: Intel® Xeon® CascadedLake CPU (frequency: 2.6 GHz; Turbo frequency: 3.5 GHz) • Memory: 516 GB (or 528,384 MB)	264

Table 4-4 Specifications of s6_pro DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
s6_pro	2	26	• CPU: Intel® Xeon® CascadedLake CPU (frequency: 2.6 GHz; Turbo frequency: 3.5 GHz) • Memory:702 GB (or 718,848 MB)	264

Table 4-5 Specifications of s7 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
s7	2	38	• CPU: Intel® Xeon® IceLake CPU (frequency: 2.8 GHz; Turbo frequency: 3.5 GHz) • Memory: 926 GB (or 948,224 MB)	390

NOTE

The number of vCPUs for a DCC is calculated as follows: Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads – CPU overheads) x CPU overcommitment ratio

- s3 DCCs
  vCPUs = (2 x 22 x 2 – 16) x 2 = 144
- s3_pro DCCs
  vCPUs = (2 x 22 x 2 – 16) x 2 = 144
- s6 DCCs
  vCPUs = (2 x 26 x 2 – 16) x 3 = 264
- s6_pro DCCs
  vCPUs = (2 x 26 x 2 – 16) x 3 = 264
- s7 DCCs
  vCPUs = (2 x 38 x 2 – 22) x 3 = 390

ECSs Allowed on DCCs

Table 4-6 ECS flavors allowed on s3 DCCs

ECS Flavor	vCPUs	Memory (GiB)
s3.small.1	1	1
s3.medium.2	1	2
s3.large.2	2	4
s3.xlarge.2	4	8
s3.2xlarge.2	8	16
s3.4xlarge.2	16	32

Table 4-7 ECS flavors allowed on s3_pro DCCs

ECS Flavor	vCPUs	Memory (GiB)
s3.medium.4	1	4
s3.large.4	2	8
s3.xlarge.4	4	16
s3.2xlarge.4	8	32
s3.4xlarge.4	16	64

Table 4-8 ECS flavors allowed on s6 DCCs

ECS Flavor	vCPUs	Memory (GiB)
s6.small.1	1	1
s6.medium.2	1	2
s6.large.2	2	4
s6.xlarge.2	4	8
s6.2xlarge.2	8	16
s6.medium.4	1	4
s6.large.4	2	8
s6.xlarge.4	4	16
s6.2xlarge.4	8	32

Table 4-9 ECS flavors allowed on s7 DCCs

ECS Flavor	vCPUs	Memory (GiB)
s7.small.1	1	1
s7.medium.2	1	2
s7.large.2	2	4
s7.xlarge.2	4	8
s7.2xlarge.2	8	16
s7.medium.4	1	4
s7.large.4	2	8
s7.xlarge.4	4	16
s7.2xlarge.4	8	32

4.3 General Computing-plus DCCs

Overview

Compared with general computing DCCs, general computing-plus DCCs provide dedicated vCPUs, featuring powerful performance. In addition, the DCCs use latest-generation network acceleration engines and Data Plane Development Kit (DPDK) to provide higher network performance, meeting requirements in different scenarios.

General computing-plus DCCs are classified into c7, c7_pro, c7_a, c7_b, c3, c3_pro, c6, and c6_pro types. C3, C7, and C6 ECSs can be deployed on the general computing-plus DCCs.

DCC Specifications

Table 4-10 Specifications of c3 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c3	2	18	• CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) • Memory: 128 GB (or 131,072 MB)	64

Table 4-11 Specifications of c3_pro DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c3_pro	2	18	• CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) • Memory: 256 GB (or 262,144 MB)	64

Table 4-12 Specifications of c6 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c6	2	22	• CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) • Memory: 148 GB (or 151,552 MB)	74

Table 4-13 Specifications of c6_pro DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c6_pro	2	22	• CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) • Memory: 296 GB (or 303,104 MB)	74

Table 4-14 Specifications of c7 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c7	2	32	• CPU: Intel® Xeon® IceLake CPU (frequency: 3.0 GHz; Turbo frequency: 3.5 GHz) • Memory: 256 GB (or 262,144 MB)	128

Table 4-15 Specifications of c7_pro DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c7_pro	2	32	• CPU: Intel® Xeon® IceLake CPU (frequency: 3.0 GHz; Turbo frequency: 3.5 GHz) • Memory: 512 GB (or 524,288 MB)	128

Table 4-16 Specifications of c7_a DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c7_a	2	38	• CPU: Intel® Xeon® IceLake CPU (frequency: 2.8 GHz; Turbo frequency: 3.5 GHz) • Memory: 512 GB (or 524,288 MB)	152

Table 4-17 Specifications of c7_b DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
c7_b	2	38	• CPU: Intel® Xeon® IceLake CPU (frequency: 2.8 GHz; Turbo frequency: 3.5 GHz) • Memory: 608 GB (or 622,592 MB)	152

NOTE

The number of vCPUs for a DCC is calculated as follows: Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads – CPU overheads) x CPU overcommitment ratio

- c3 DCCs
  vCPUs = (2 x 18 x 2 – 12) x 1.07 = 64
- c3_pro DCCs
  vCPUs = (2 x 18 x 2 – 12) x 1.07 = 64
- c3ne DCCs
  vCPUs = (2 x 18 x 2 – 12) x 1.07 = 64
- c6 DCCs
  vCPUs = (2 x 22 x 2 – 14) x 1 = 74
- c6_pro DCCs
  vCPUs = (2 x 22 x 2 – 14) x 1 = 74
- c7 DCCs
  vCPUs = (2 x 32 x 2 – 0) x 1 = 128
- c7_pro DCCs
  vCPUs = (2 x 32 x 2 – 0) x 1 = 128
- c7_a DCCs
  vCPUs = (2 x 38 x 2 – 0) x 1 = 152
- c7_b DCCs
  vCPUs = (2 x 38 x 2 – 0) x 1 = 152

ECSs Allowed on DCCs

Table 4-18 ECS flavors allowed on c3 DCCs

ECS Flavor	vCPUs	Memory (GiB)
c3.large.2	2	4
c3.xlarge.2	4	8
c3.2xlarge.2	8	16

ECS Flavor	vCPUs	Memory (GiB)
c3.3xlarge.2	12	24
c3.4xlarge.2	16	32
c3.6xlarge.2	24	48
c3.8xlarge.2	32	64
c3.15xlarge.2	60	128

Table 4-19 ECS flavors allowed on c3_pro DCCs

ECS Flavor	vCPUs	Memory (GiB)
c3.large.4	2	8
c3.xlarge.4	4	16
c3.2xlarge.4	8	32
c3.3xlarge.4	12	48
c3.4xlarge.4	16	64
c3.6xlarge.4	24	96
c3.8xlarge.4	32	128
c3.15xlarge.4	60	256

Table 4-20 ECS flavors allowed on c3ne DCCs

ECS Flavor	vCPUs	Memory (GiB)
c3ne.large.2	2	4
c3ne.xlarge.2	4	8
c3ne.2xlarge.2	8	16
c3ne.4xlarge.2	16	32
c3ne.8xlarge.2	32	64
c3ne.15xlarge.2	60	128

Table 4-21 ECS flavors allowed on c6 DCCs

ECS Flavor	vCPUs	Memory (GiB)
c6.large.2	2	4
c6.xlarge.2	4	8
c6.2xlarge.2	8	16
c6.3xlarge.2	12	24
c6.4xlarge.2	16	32
c6.6xlarge.2	24	48
c6.8xlarge.2	32	64
c6.16xlarge.2	64	128

Table 4-22 ECS flavors allowed on c6_pro DCCs

ECS Flavor	vCPUs	Memory (GiB)
c6.large.4	2	8
c6.xlarge.4	4	16
c6.2xlarge.4	8	32
c6.3xlarge.4	12	48
c6.4xlarge.4	16	64
c6.6xlarge.4	24	96
c6.8xlarge.4	32	128
c6.16xlarge.4	64	256

Table 4-23 ECS flavors allowed on c7 DCCs

ECS Flavor	vCPUs	Memory (GiB)
c7.large.2	2	4
c7.xlarge.2	4	8
c7.2xlarge.2	8	16
c7.3xlarge.2	12	24
c7.4xlarge.2	16	32
c7.6xlarge.2	24	48

ECS Flavor	vCPUs	Memory (GiB)
c7.8xlarge.2	32	64
c7.12xlarge.2	48	96
c7.16xlarge.2	64	128
c7.24xlarge.2	96	192
c7.32xlarge.2	128	256

Table 4-24 ECS flavors allowed on c7_pro and c7_b DCCs

ECS Flavor	vCPUs	Memory (GiB)
c7.large.4	2	8
c7.xlarge.4	4	16
c7.2xlarge.4	8	32
c7.3xlarge.4	12	48
c7.4xlarge.4	16	64
c7.6xlarge.4	24	96
c7.8xlarge.4	32	128
c7.12xlarge.4	48	192
c7.16xlarge.4	64	256
c7.24xlarge.4	96	384
c7.32xlarge.4	128	512

Table 4-25 ECS flavors allowed on c7_a DCCs

ECS Flavor	vCPUs	Memory (GiB)
c7.large.2	2	4
c7.xlarge.2	4	8
c7.2xlarge.2	8	16
c7.3xlarge.2	12	24
c7.4xlarge.2	16	32
c7.6xlarge.2	24	48
c7.8xlarge.2	32	64

ECS Flavor	vCPUs	Memory (GiB)
c7.12xlarge.2	48	96
c7.16xlarge.2	64	128
c7.24xlarge.2	96	192
c7.32xlarge.2	128	256
c7.large.4	2	8
c7.xlarge.4	4	16
c7.2xlarge.4	8	32
c7.3xlarge.4	12	48
c7.4xlarge.4	16	64
c7.6xlarge.4	24	96
c7.8xlarge.4	32	128
c7.12xlarge.4	48	192
c7.16xlarge.4	64	256
c7.24xlarge.4	96	384
c7.32xlarge.4	128	512

4.4 Memory-optimized DCCs

Overview

Memory-optimized DCCs are designed for processing large-scale data sets in the memory. They use the latest Intel Xeon Skylake CPUs, network acceleration engines, and Data Plane Development Kit (DPDK) to provide higher network performance, providing a maximum of 512 GB DDR4 memory for high-memory computing applications.

Memory-optimized DCCs are classified into m3, m7, and m6 types. M3, M7, and M6 ECSs can be deployed on memory-optimized DCCs.

DCC Specifications

Table 4-26 Specifications of m3 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
m3	2	18	• CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) • Memory: 512 GB (or 524,288 MB)	64

Table 4-27 Specifications of m6 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
m6	2	22	• CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) • Memory: 608 GB (or 622,592 MB)	76

Table 4-28 Specifications of m7 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
m7	2	32	CPU: Intel® Xeon® IceLake CPU (frequency: 3.0 GHz; Turbo frequency: 3.5 GHz) Memory: 1,024 GB (or 1,048,576 MB)	128

NOTE

The number of vCPUs for a DCC is calculated as follows: Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads – CPU overheads) x CPU overcommitment ratio

- m3 DCCs
  vCPUs = (2 x 18 x 2 – 12) x 1.07 = 64
- m6 DCCs
  vCPUs = (2 x 22 x 2 – 12) x 1 = 76
- m7 DCCs
  vCPUs = (2 x 32 x 2 – 0) x 1 = 128

ECSs Allowed on DCCs

Table 4-29 ECS flavors allowed on m3 DCCs

ECS Flavor	vCPUs	Memory (GiB)
m3.large.8	2	16
m3.xlarge.8	4	32
m3.2xlarge.8	8	64
m3.3xlarge.8	12	96
m3.4xlarge.8	16	128
m3.6xlarge.8	24	192
m3.8xlarge.8	32	256
m3.15xlarge.8	60	512
m3.16xlarge.8	64	512

Table 4-30 ECS flavors allowed on m6 DCCs

ECS Flavor	vCPUs	Memory (GiB)
m6.large.8	2	16
m6.xlarge.8	4	32
m6.2xlarge.8	8	64
m6.3xlarge.8	12	96
m6.4xlarge.8	16	128
m6.6xlarge.8	24	192
m6.8xlarge.8	32	256
m6.16xlarge.8	64	512

Table 4-31 ECS flavors allowed on m7 DCCs

ECS Flavor	vCPUs	Memory (GiB)
m7.large.8	2	16
m7.xlarge.8	4	32
m7.2xlarge.8	8	64
m7.3xlarge.8	12	96
m7.4xlarge.8	16	128
m7.6xlarge.8	24	192
m7.8xlarge.8	32	256
m7.12xlarge.8	48	384
m7.16xlarge.8	64	512
m7.24xlarge.8	96	768
m7.32xlarge.8	128	1024

4.5 Kunpeng General Computing-plus DCCs

Overview

Kunpeng general computing DCCs use Kunpeng 920 processors and 25GE high-speed intelligent NICs to cost-effectively provide a baseline level of vCPU performance with the ability to burst above the baseline, meeting the requirements of migrating infrastructure services to the cloud.

Kunpeng general computing-plus DCCs are classified into kc1 and kc1_pro. They can be used to house kC1 ECSs.

DCC Specifications

Table 4-32 Specifications of kc1 DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
kc1	2	64	• CPU: Huawei Kunpeng 920 processor (frequency: 2.6 GHz) • Memory: 188 GB (or 192,512 MB)	116

Table 4-33 Specifications of kc1_pro DCCs

DCC Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	vCPUs
kc1_pro	2	64	• CPU: Huawei Kunpeng 920 processor (frequency: 2.6 GHz) • Memory: 440 GB (or 450,560 MB)	116

NOTE

The number of vCPUs for a DCC is calculated as follows: Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads – CPU overheads) x CPU overcommitment ratio

- kc1 DCCs
  vCPUs = (2 x 64 x 1 – 12) x 1 = 116
- kc1_pro DCCs
  vCPUs = (2 x 64 x 1 – 12) x 1 = 116

ECSs Allowed on DCCs

Table 4-34 ECS flavors allowed on kc1 DCCs

ECS Flavor	vCPUs	Memory (GiB)
kc1.small.1	1	1
kc1.large.2	2	4
kc1.xlarge.2	4	8
kc1.2xlarge.2	8	16
kc1.3xlarge.2	12	24
kc1.4xlarge.2	16	32
kc1.6xlarge.2	24	48
kc1.8xlarge.2	32	64
kc1.12xlarge.2	48	96

Table 4-35 ECS flavors allowed on kc1_pro DCCs

ECS Flavor	vCPUs	Memory (GiB)
kc1.large.4	2	8
kc1.xlarge.4	4	16
kc1.2xlarge.4	8	32
kc1.3xlarge.4	12	48
kc1.4xlarge.4	16	64
kc1.6xlarge.4	24	96
kc1.8xlarge.4	32	128
kc1.12xlarge.4	48	192

5 Region and AZ

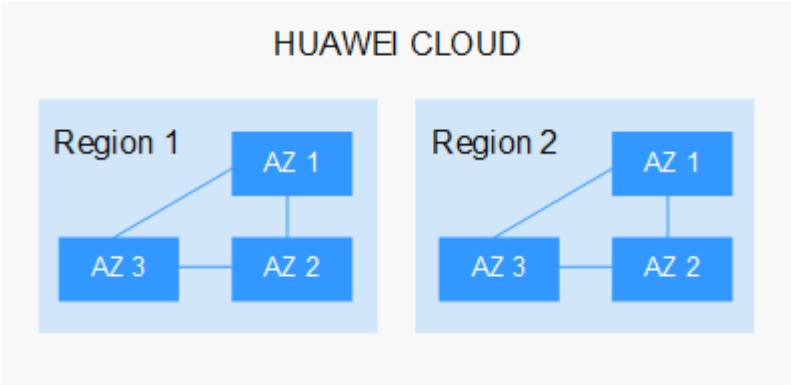
Concept

A region and availability zone (AZ) identify the location of a data center. You can create resources in a specific region and AZ.

- Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.
- An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters.

Figure 5-1 shows the relationship between regions and AZs.

Figure 5-1 Regions and AZs



Huawei Cloud provides services in many regions around the world. You can select a region and an AZ based on requirements. For more information, see **Huawei Cloud Global Regions**.

Selecting a Region

When selecting a region, consider the following factors:

- Location

  It is recommended that you select the closest region for lower network latency and quick access.

  - If your target users are in Asia Pacific (excluding the Chinese mainland), select the **CN-Hong Kong**, **AP-Bangkok**, or **AP-Singapore** region.
  - If your target users are in Africa, select the **AF-Johannesburg** region.
  - If your target users are in Latin America, select the **LA-Santiago** region.

    NOTE

    The **LA-Santiago** region is located in Chile.

- Resource price

  Resource prices may vary in different regions. For details, see **Product Pricing Details**.

Selecting an AZ

When deploying resources, consider your applications' requirements on disaster recovery (DR) and network latency.

- For high DR capability, deploy resources in different AZs within the same region.
- For lower network latency, deploy resources in the same AZ.

Regions and Endpoints

Before you use an API to call resources, specify its region and endpoint. For more details, see **Regions and Endpoints**.

6 Price Details

Dedicated Computing Cluster (DCC) provides users with physically isolated resource pools that can be exclusively used by the users. DCCs are applicable to scenarios with high security requirements, such as financial systems, data warehouses, gene sequencing, and bio-pharmaceuticals. You can apply for exclusive physical devices and dedicated region of computing, storage, and network resources to ensure your data security and service stability.

Billing Items

Billing items contain included services and associated services.

- Included services

  Dedicated ECS: Create dedicated ECSs of different types as needed. Dedicated ECSs are free of charge; the only costs incurred are those associated with IP addresses, bandwidth resources, and EVS disks.

- Associated services (optional services that are billed separately)
  - Image Management Service (IMS): You will be charged for the license of some commercial OSs when public images are used. For prices of other images in Marketplace, see the information provided by the specific image provider.
  - Elastic IP (EIP): EIP is billed by the number of EIP addresses you purchased.
  - Bandwidth: Public network bandwidth is billed by traffic or bandwidth.
  - Elastic Volume Service (EVS): You can purchase EVS disks or DSS disks as needed. EVS disks can be billed in pay-per-use or yearly/monthly mode. The system disks of ECSs in a DCC can only be billed in pay-per-use mode.

  NOTE

  For details about the price of each service, see **Price Calculator**.

Billing Modes

1. Billing mode: ECS resource pools are billed on a yearly/monthly basis; payment must be made prior to usage. During the payment process, the system will deduct the fees from your account balance accordingly. The billing mode cannot be changed.

2. Billing cycle: The billing cycle is on a yearly/monthly basis and uses the UTC+8 time zone. The billing cycle starts when you enable your resource (accurate to the second) and ends when the specified usage duration expires (showing: 00:00:00).

   Example: If the user enabled a yearly resource at 13:23:56 on February 1, 2017, the billing cycle will end at 00:00:00 on February 2, 2018.

3. Billing item: You are billed by the quantity of the physical servers purchased.
4. New subscription: The subscription cycle is on a yearly/monthly basis. A minimum of four physical servers must be purchased for first-time subscribers.
5. Renewal: The renewal cycle is on a yearly/monthly basis (a minimum of four physical servers must be renewed). When a billing cycle expires, you continue your service by selecting **Renew** or **Enable Auto-Renew**; alternatively, you can choose to discontinue your service.

   Example: If a user has eight yearly physical servers (all expiring at 00:00:00 on February 2, 2018), the user needs to renew at least four physical servers in order to continue with the service. The renewal cycle will start at 00:00:00 on February 2, 2018, and end at 00:00:00 on February 3, 2019.

6. Refund: Unconditional refunds are not supported. If you need to unsubscribe from purchased services, you can apply for a refund ticket.

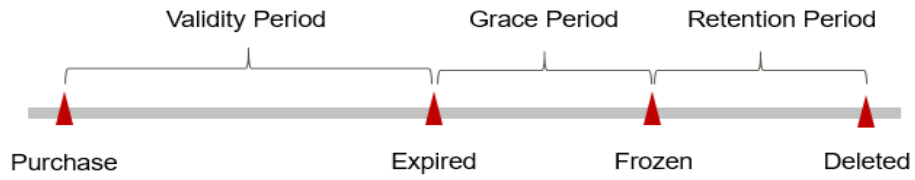
Configuration Changes

Changing the hardware configurations of physical servers during a billing cycle is not allowed.

Impact of Expiration

Figure 6-1 shows the statuses a yearly/monthly DCC can go through throughout its lifecycle. After a DCC is purchased, it enters the valid period and runs normally during this period. If the DCC is not renewed after it expires, before being deleted, it first enters a grace period and then a retention period.

Figure 6-1 Lifecycle of a yearly/monthly DCC



Expiration Reminder

The system will send you a reminder (by email, SMS, or in-app message) 7 days before a yearly/monthly DCC expires to remind you to renew the subscription.

Impact of Expiration

If your yearly/monthly DCC is not renewed after it expires, it changes to the **Expired** state and enters a grace period. During the grace period, you can access the DCC.

If the yearly/monthly DCC is not renewed after the grace period ends, its status turns to **Frozen** and it enters a retention period. You cannot perform any operations on the DCC and the ECSs in the DCC while it is in the retention period.

If the yearly/monthly DCC is not renewed by the time the retention period ends, the DCC and the ECSs, EIPs, EVS disks, and cloud backup in the DCC will be released and data cannot be restored.

7 Security

7.1 Shared Responsibilities

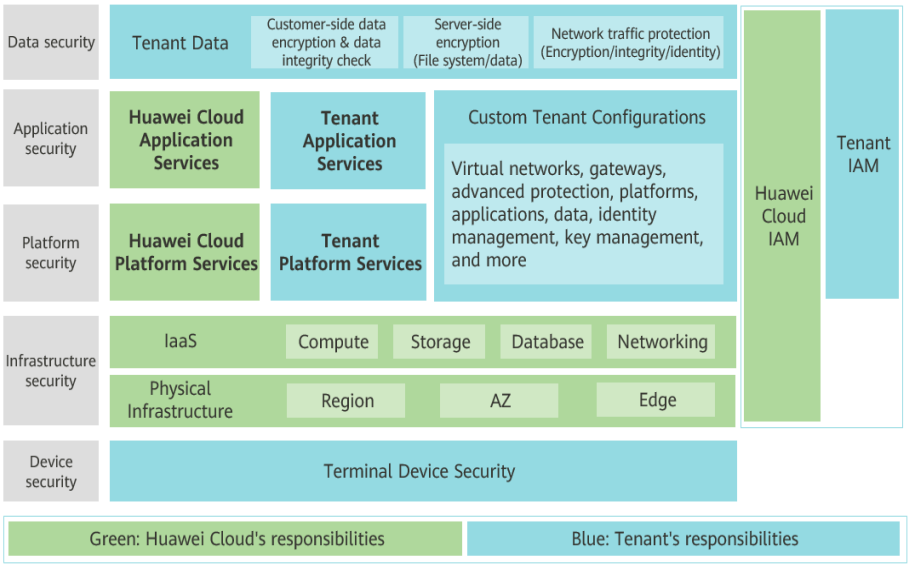
Huawei guarantees that its commitment to cyber security will never be outweighed by the consideration of commercial interests. To cope with emerging cloud security challenges and pervasive cloud security threats and attacks, Huawei Cloud builds a comprehensive cloud service security assurance system for different regions and industries based on Huawei's unique software and hardware advantages, laws, regulations, industry standards, and security ecosystem.

Figure 7-1 illustrates the responsibilities shared by Huawei Cloud and users.

- **Huawei Cloud**: Ensure the security of cloud services and provide secure clouds. Huawei Cloud's security responsibilities include ensuring the security of our IaaS, PaaS, and SaaS services, as well as the physical environments of the Huawei Cloud data centers where our IaaS, PaaS, and SaaS services operate. Huawei Cloud is responsible for not only the security functions and performance of our infrastructure, cloud services, and technologies, but also for the overall cloud O&M security and, in the broader sense, the security and compliance of our infrastructure and services.
- **Tenant**: Use the cloud securely. Tenants of Huawei Cloud are responsible for the secure and effective management of the tenant-customized configurations of cloud services including IaaS, PaaS, and SaaS. This includes but is not limited to virtual networks, the OS of virtual machine hosts and guests, virtual firewalls, API Gateway, advanced security services, all types of cloud services, tenant data, identity accounts, and key management.

Huawei Cloud Security White Paper elaborates on the ideas and measures for building Huawei Cloud security, including cloud security strategies, the shared responsibility model, compliance and privacy, security organizations and personnel, infrastructure security, tenant service and security, engineering security, O&M security, and ecosystem security.

Figure 7-1 Huawei Cloud shared security responsibility model



7.2 Data Protection

User encryption allows you to use the encryption feature provided on the cloud platform to encrypt ECS resources, improving data security. User encryption includes image encryption and EVS disk encryption.

Image Encryption

Image encryption supports encrypting private images. When creating an ECS, if you select an encrypted image, the system disk of the created ECS is automatically encrypted, improving data security.

Use either of the following methods to create an encrypted image:

- Use an external image file.
- Use an existing encrypted ECS.

For more information about image encryption, see **Encrypting Images**.

EVS Disk Encryption

EVS disk encryption supports system disk encryption and data disk encryption.

- When creating an ECS, if you select an encrypted image, the system disk of the created ECS automatically has encryption enabled, and the encryption mode complies with the image encryption mode.
- When creating an ECS, you can encrypt added data disks.

For more information about EVS disk encryption, see **EVS Encryption**.

Impact on AS

If you use an encrypted ECS to create an Auto Scaling (AS) configuration, the encryption mode of the created AS configuration complies with the ECS encryption mode.

About Keys

The key required for encryption relies on Data Encryption Workshop (DEW). DEW uses a data encryption key (DEK) to encrypt data and uses a customer master key (CMK) to encrypt the DEK.

Figure 7-2 Data encryption process

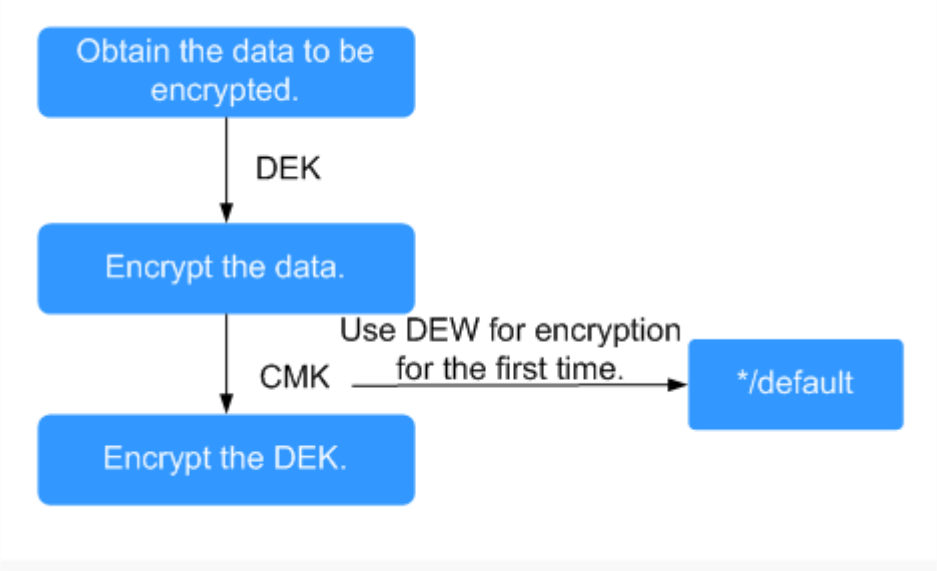


Table 7-1 describes the keys involved in the data encryption process.

Table 7-1 Keys

Name	Description	Function
DEK	An encryption key that is used for encrypting data.	Encrypts specific data.
Custom key	An encryption key created using DEW for encrypting DEKs. A custom key can encrypt multiple DEKs.	Supports CMK disabling and scheduled deletion.
Default key	A master key automatically generated by the system when you use DEW for encryption for the first time. The name extension of a default CMK is **/default**, for example, **evs/default**.	• Supports query of the default key on the DEW console. • Does not support CMK disabling or scheduled deletion.

NOTE

After disabling a CMK or scheduling the deletion of a CMK takes effect, the EVS disk encrypted using this CMK can still be used until the disk is detached from and then attached to an ECS again. During this process, the disk fails to be attached to the ECS because the CMK cannot be obtained, so the EVS disk becomes unavailable.

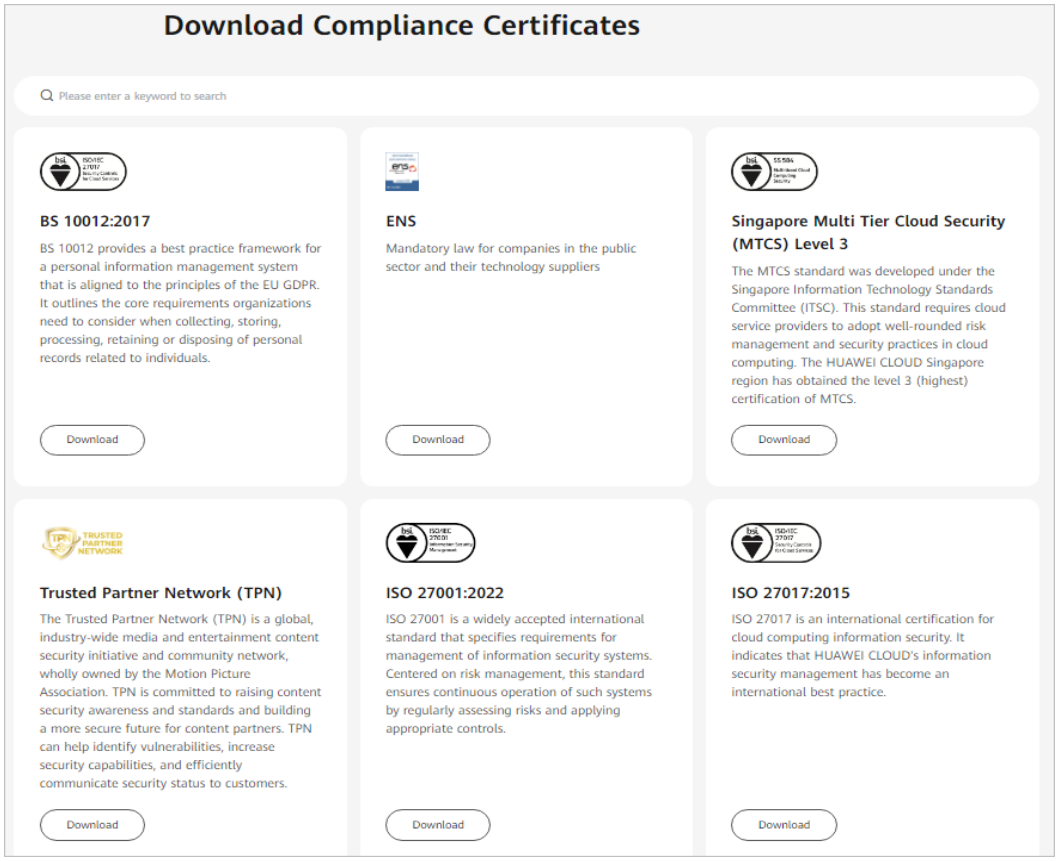
For details about DEW, see ***Data Encryption Workshop User Guide***.

7.3 Certificates

Compliance Certificates

Huawei Cloud services and platforms have obtained various security and compliance certifications from authoritative organizations, such as International Organization for Standardization (ISO). You can **download** them from the console.

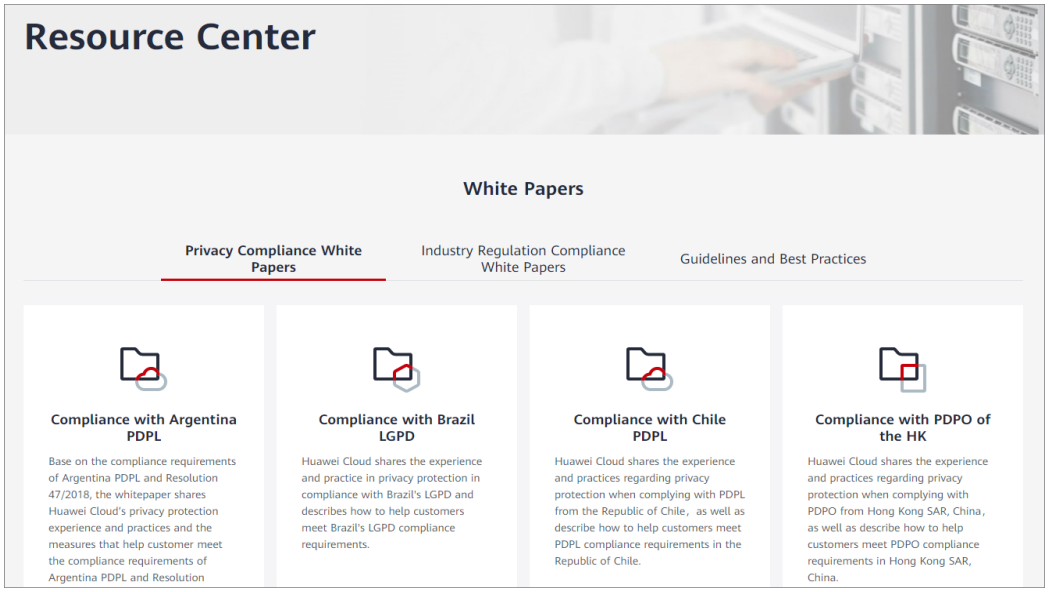
Figure 7-3 Downloading compliance certificates



Resource Center

Huawei Cloud also provides the following resources to help users meet compliance requirements. For details, see **Resource Center**.

Figure 7-4 Resource center



8 DCC and DeC

After the DeC service is provisioned for you and you have obtained physical device resources, you can use the following services in the resource area of your DeC:

- Elastic Cloud Server (ECS)
- Bare Metal Server (BMS)
- Image Management Service (IMS)
- Auto Scaling (AS)
- Elastic Volume Service (EVS)
- Volume Backup Service (VBS)
- Object Storage Service (OBS)
- Virtual Private Cloud (VPC)
- Elastic Load Balance (ELB)
- Identity and Access Management (IAM)
- Cloud Eye
- Scalable File Service (SFS)
- Cloud Server Backup Service (CSBS)

DCC is the core service in the DeC solution. DCC provides computing capabilities for the DeC solution. DeCs are isolated from each other. You can apply for physical servers that are dedicated for you to use the DCC service only after you enable your DeC. The DCC service provides computing resources for all services in the corresponding DeC.

In your DeC, you use the computing resources on the physical servers you have bought. So, you will not be charged for additional fees for using computing resources in your DeC. If the computing resources are insufficient to create new ECSs, you need to expand the capacity of your DCC.

