Dedicated Host

Service Overview

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DeH Infographics







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2 Dedicated Host

Dedicated Host (DeH) provides dedicated physical hosts to ensure isolation, security, and performance for your ECSs. You can bring your own license (BYOL) to DeH to reduce the costs on software licenses and facilitate the independent management of ECSs.

Figure 2-1 shows the differences between DeHs and common ECSs.

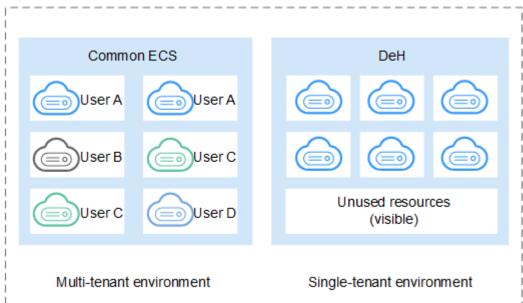


Figure 2-1 Differences between DeHs and common ECSs

The physical resources of the DeH are not shared with others, while the physical resources of the ECS may be shared with others. You can obtain the detailed information on the DeH, such as sockets, physical cores, CPU type, and memory size. So, you can create ECSs of specified flavors based on the DeH flavor.

ECS Deployment Modes

You can use your DeH resources by the following methods:

Select a DeH to deploy ECSs.

- Directly create ECSs on an existing DeH or select a DeH you want to deploy ECSs on when creating ECSs.
- Configure the system to automatically deploy the ECS on a DeH.
 When you create an ECS, select Auto Placement for DeH to configure the system to automatically deploy the ECS on the DeH with the highest available memory.

The combination of these two methods guarantees the isolation, security, and regulation compliance for deployed applications, improves resource utilization, and optimizes the ECS performance.

3 Application Scenarios

Industries that have high requirements for regulation compliance and security

You can exclusively use a physically isolated host to meet your high compliance and security requirements.

- Tenants that use the Bring Your Own License (BYOL) mode

 If you have a licensed OS or software (licensed based on the number of physical sockets or the number of physical cores), you can bring your own license and migrate your services to the cloud platform.
- Industries that are extremely sensitive to performance and stability

 DeH is ideal for service scenarios with higher requirements on server
 performance and stability such as finance, securities and gaming applications.

 DeH guarantees the stability of CPUs and network I/O, ensuring smooth
 running of applications.
- Independent resource deployment and flexible management

 You can create ECSs on a specified DeH and specify your ECS specifications based on the type of DeH you specified. You can migrate ECSs between DeHs or migrate ECSs from public resource pool to a DeH.

4 Product Advantages

- Cost-effectiveness: DeH allows you to bring your own license (BYOL), such as licenses for Microsoft Windows Server, Microsoft SQL Server, and Microsoft Office.
- Security: DeH isolates compute resources to prevent your workloads on DeHs from being affected by those of other tenants.
- Legal compliance: Physically isolated DeHs help you to meet regulation compliance and surveillance requirements for your sensitive services.
- Scalability: You can apply for your DeHs flexibly. Your DeHs will be allocated within several minutes.
- Reliability: DeH provides 99.95% availability.

5 Categories and Types

5.1 Overview

The DeH category and type define the DeH configuration and determine the type and number of ECSs you can create on the DeH.

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

Currently, the following DeH categories and types are supported:

- General computing DeHs
- General computing-plus DeHs
- Memory-optimized DeHs

DeH categories here are for your quick glance only. For details about each DeH category, go to the specific topics.

DeH Categ ory	Flavo r Type	Num ber of CPUs (Sock ets)	Numb er of Physic al Cores	Local Disk	Hardware Specifications	Number of vCPUs
Gener al comp uting DeHs	s3	2	22	N/A	CPU: Intel® Xeon® Skylake 6161 v5 (frequency: 2.20 GHz; Turbo frequency: 3.00 GHz) Memory: 288 GB (or 294,912 MB)	144

DeH Categ ory	Flavo r Type	Num ber of CPUs (Sock ets)	Numb er of Physic al Cores	Local Disk	Hardware Specifications	Number of vCPUs
	s3_pr o	2	22	N/A	CPU: Intel® Xeon® Skylake 6161 v5 (frequency: 2.20 GHz; Turbo frequency: 3.00 GHz) Memory: 576 GB (or	144
	s6	2	26	N/A	589,824 MB) CPU: Intel® Xeon® CascadedLake CPU (frequency: 2.6 GHz; Turbo frequency: 3.5 GHz) Memory: 516 GB (or 528,384 MB)	264
	s6_pr o	2	26	N/A	CPU: Intel® Xeon® CascadedLake CPU (frequency: 2.6 GHz; Turbo frequency: 3.5 GHz) Memory: 702 GB (or 718,848 MB)	264
	s7	2	38	N/A	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.8 GHz; Turbo frequency: 3.5 GHz) Memory: 926 GB (948,224 MB)	390
	s7n	2	28	N/A	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.6 GHz; Turbo frequency: 3.4 GHz) Memory: 912GB (933,888 MB)	276
Gener al comp uting- plus DeHs	c3	2	18	N/A	CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) Memory: 128 GB (or 131,072 MB)	64

DeH Categ ory	Flavo r Type	Num ber of CPUs (Sock ets)	Numb er of Physic al Cores	Local Disk	Hardware Specifications	Number of vCPUs
	c3_pr o	2	18	N/A	CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz)	64
					Memory: 256 GB (or 262,144 MB)	
	c3ne	2	18	N/A	CPU: C SkyLake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) Memory: 128 GB (or 131,072 MB)	64
	c6	2	22	N/A	CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) Memory: 148 GB (or 151,552 MB)	74
	c6_pr o	2	22	N/A	CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) Memory: 296 GB (or 303,104 MB)	74
	c7n_ pro	2	28	N/A	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.6 GHz; Turbo frequency: 3.4 GHz) Memory: 392 GB (401,408 MB)	98
Memo ry- optimi zed DeHs	m3	2	18	N/A	CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz) Memory: 512 GB (or 524,288 MB)	64

DeH Categ ory	Flavo r Type	Num ber of CPUs (Sock ets)	Numb er of Physic al Cores	Local Disk	Hardware Specifications	Number of vCPUs
	m6	2	22	N/A	CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; Turbo frequency: 3.40 GHz)	76
					Memory: 608 GB (or 622,592 MB)	

Ⅲ NOTE

The number of vCPUs for a DeH 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 and s3_pro DeHs
 - $vCPUs = (2 \times 22 \times 2 16) \times 2 = 144$
- s6 and s6_pro DeHs
- $vCPUs = (2 \times 26 \times 2 16) \times 3 = 264$
- s7 DeHs
 - $vCPUs = (2 \times 38 \times 2 22) \times 3 = 390$
- s7n DeHs
 - $vCPUs = (2 \times 28 \times 2 20) \times 3 = 276$
- c3, c3_pro, and c3ne DeHs
 - $vCPUs = (2 \times 18 \times 2 12) \times 1.07 = 64$
- c6 and c6_pro DeHs
 - $vCPUs = (2 \times 22 \times 2 14) \times 1 = 74$
- c7n_pro DeHs
 - $vCPUs = (2 \times 28 \times 2 14) \times 1 = 98$
- m3 DeHs
 - $vCPUs = (2 \times 18 \times 2 12) \times 1.07 = 64$
- m6 DeHs
 - $vCPUs = (2 \times 22 \times 2 12) \times 1 = 76$

5.2 General Computing DeHs

Overview

General-computing DeHs 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.

General computing DeHs are classified into s3, s3_pro, s6, s6_pro, s7, and s7n types, and use the latest-generation Intel® Xeon® SkyLake CPUs, providing better cost-effectiveness. S3, S6, S7, and S7n ECSs can be deployed on the general computing DeHs.

DeH Specifications

Table 5-1 Specifications of s3 DeHs

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

Table 5-2 Specifications of s3_pro DeHs

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

Table 5-3 Specifications of s6 DeHs

Flavor Type	Numb er of CPUs (Socke ts)	Number of Physical Cores	Hardware Specifications	Numb er of 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 5-4 Specifications of s6_pro DeHs

Flavor Type	Numb er of CPUs (Socke ts)	Number of Physical Cores	Hardware Specifications	Numb er of 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 5-5 Specifications of s7 DeHs

Flavor Type	Numb er of CPUs (Socke ts)	Number of Physical Cores	Hardware Specifications	vCPUs
s7	2	38	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.8 GHz; Turbo frequency: 3.5 GHz) Memory: 926 GB (948,224 MB)	390

Table 5-6 Specifications of s7n DeHs

Flavor Type	Numb er of CPUs (Socke ts)	Number of Physical Cores	Hardware Specifications	vCPUs
s7n	2	28	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.6 GHz; Turbo frequency: 3.4 GHz) Memory: 912 GB (933,888 MB)	276

□ NOTE

Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads - CPU overheads) x CPU overcommitment ratio

• s3 DeHs

$$vCPUs = (2 \times 22 \times 2 - 16) \times 2 = 144$$

• s3_pro DeHs

• s6 DeHs

$$vCPUs = (2 \times 26 \times 2 - 16) \times 3 = 264$$

• s6_pro DeHs

$$vCPUs = (2 \times 26 \times 2 - 16) \times 3 = 264$$

• s7 DeHs

• s7n DeHs

$$vCPUs = (2 \times 28 \times 2 - 20) \times 3 = 276$$

ECSs Allowed on DeHs

Table 5-7 ECS flavors allowed on s3 DeHs

ECS Flavor	vCPUs	Memory (GB)
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 5-8 ECS flavors allowed on s3_pro DeHs

ECS Flavor	vCPUs	Memory (GB)
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 5-9 ECS flavors allowed on s6 DeHs

ECS Flavor	vCPUs	Memory (GB)
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

Table 5-10 ECS flavors allowed on s6_pro DeHs

ECS Flavor	vCPUs	Memory (GB)
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 5-11 ECS flavors allowed on s7 DeHs

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

ECS Flavor	vCPUs	Memory (GB)
s7.2xlarge.4	8	32
s7.4xlarge.2	16	32
s7.4xlarge.4	16	64

Table 5-12 ECS flavors allowed on s7n DeHs

ECS Flavor	vCPUs	Memory (GB)
s7n.small.1	1	1
s7n.medium.2	1	2
s7n.medium.4	1	4
s7n.large.2	2	4
s7n.large.4	2	8
s7n.xlarge.2	4	8
s7n.xlarge.4	4	16
s7n.2xlarge.2	8	16
s7n.2xlarge.4	8	32
s7n.4xlarge.2	16	32
s7n.4xlarge.4	16	64

5.3 General Computing-Plus DeHs

Overview

Compared with general computing DeHs, general computing-plus DeHs provide dedicated vCPUs, featuring powerful performance. In addition, the DeHs 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 DeHs are classified into the following types: c3, c3_pro, c3ne, c6, and c6_pro.

- Both c3 and c3_pro DeHs house C3 ECSs. C3 ECSs come with the latest Intel Xeon Skylake CPUs and high-performance networks to address the requirements of enterprise-level applications on enhanced service stability and improved computing performance.
- c3ne DeHs house C3ne ECSs. C3ne ECSs come with the new-generation Intel Xeon Skylake CPUs and 25GE high-speed iNICs to offer an intranet bandwidth

of up to 40 Gbit/s and network forwarding capacity of up to 10 million PPS, thereby addressing the requirements of enterprise-level applications on high computing and network performance.

- Both c6 and c6_pro DeHs can house C6 ECSs.
- c7n_pro DeHs can house c7n ECSs.

DeH Specifications

Table 5-13 Specifications of c3 DeHs

Flavor Type	Numbe r of CPUs (Socke ts)	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) 	64
			 Memory: 128 GB (or 131,072 MB) 	

Table 5-14 Specifications of c3_pro DeHs

Flavor Type	Numbe r of CPUs (Socke ts)	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) 	64
			• Memory: 256 GB (or 262,144 MB)	

Table 5-15 Specifications of c3ne DeHs

Flavor Type	Numbe r of CPUs (Socke ts)	Number of Physical Cores	Hardware Specifications	vCPUs
c3ne	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 5-16 Specifications of c6 DeHs

Flavor Type	Numbe r of CPUs (Socke ts)	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 5-17 Specifications of c6_pro DeHs

Flavor Type	Numbe r of CPUs (Socke ts)	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 5-18 Specifications of c7n_pro DeHs

Flavor Type	Numbe r of CPUs (Socke ts)	Number of Physical Cores	Hardware Specifications	vCPUs
c7n_pro	2	28	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.6 GHz; Turbo frequency: 3.4 GHz) Memory: 392GB (401,408 MB)	98

□ NOTE

Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads - CPU overheads) x CPU overcommitment ratio

- c3 DeHs
 - vCPUs = (2 x 18 x 2 12) x 1.07 = 64
- c3_pro DeHs

$$vCPUs = (2 \times 18 \times 2 - 12) \times 1.07 = 64$$

• c3ne DeHs

$$vCPUs = (2 \times 18 \times 2 - 12) \times 1.07 = 64$$

• c6 DeHs

$$vCPUs = (2 \times 22 \times 2 - 14) \times 1 = 74$$

• c6_pro DeHs

$$vCPUs = (2 \times 22 \times 2 - 14) \times 1 = 74$$

• c7n_pro DeHs

$$vCPUs = (2 \times 28 \times 2 - 14) \times 1 = 98$$

ECSs Allowed on DeHs

Table 5-19 ECS flavors allowed on c3 DeHs

ECS Flavor	vCPUs	Memory (GB)
c3.large.2	2	4
c3.xlarge.2	4	8
c3.2xlarge.2	8	16
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 5-20 ECS flavors allowed on c3_pro DeHs

ECS Flavor	vCPUs	Memory (GB)
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 5-21 ECS flavors allowed on c3ne DeHs

ECS Flavor	vCPUs	Memory (GB)
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 5-22 ECS flavors allowed on c6 DeHs

ECS Flavor	vCPUs	Memory (GB)	Maximum Number of ECSs on a DeH
c6.large.2	2	4	37
c6.xlarge.2	4	8	18
c6.2xlarge.2	8	16	8
c6.3xlarge.2	12	24	6
c6.4xlarge.2	16	32	4
c6.6xlarge.2	24	48	3

ECS Flavor	vCPUs	Memory (GB)	Maximum Number of ECSs on a DeH
c6.8xlarge.2	32	64	2
c6.16xlarge.2	64	128	1

Table 5-23 ECS flavors allowed on c6_pro DeHs

ECS Flavor	vCPUs	Memory (GB)	Maximum Number of ECSs on a DeH
c6.large.4	2	8	37
c6.xlarge.4	4	16	18
c6.2xlarge.4	8	32	8
c6.3xlarge.4	12	48	6
c6.4xlarge.4	16	64	4
c6.6xlarge.4	24	96	3
c6.8xlarge.4	32	128	2
c6.16xlarge.4	64	256	1

Table 5-24 ECS flavors allowed on c7n_pro DeHs

ECS Flavor	vCPUs	Memory (GB)
c7n.large.4	2	8
c7n.xlarge.4	4	16
c7n.2xlarge.4	8	32
c7n.3xlarge.4	12	48
c7n.4xlarge.4	16	64
c7n.6xlarge.4	24	96
c7n.8xlarge.4	32	128
c7n.12xlarge.4	48	192
c7n.16xlarge.4	64	256
c7n.24xlarge.4	96	384

5.4 Memory-Optimized DeHs

Overview

Memory-optimized DeHs 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 DeHs are classified into m3 and m6 DeHs.

• M6 ECSs can be deployed on m6 DeHs.

DeH Specifications

Table 5-25 Specifications of m3 DeHs

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

Table 5-26 Specifications of m6 DeHs

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

◯ NOTE

Number of vCPUs = (Number of sockets x Number of cores x Number of single-core threads - CPU overheads) x CPU overcommitment ratio

• m3 DeHs

$$vCPUs = (2 \times 18 \times 2 - 12) \times 1.07 = 64$$

• m6 DeHs

$$vCPUs = (2 \times 22 \times 2 - 12) \times 1 = 76$$

ECSs Allowed on DeHs

Table 5-27 ECS flavors allowed on m3 DeHs

Flavor Name	vCPUs	Memory (GB)
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 5-28 ECS flavors allowed on m6 DeHs

Flavor Name	vCPUs	Memory (GB)	Maximum Number of ECSs on a DeH
m6.large.8	2	16	37
m6.xlarge.8	4	32	18
m6.2xlarge.8	8	64	8
m6.3xlarge.8	12	96	6
m6.4xlarge.8	16	128	4
m6.6xlarge.8	24	192	3
m6.8xlarge.8	32	256	2
m6.16xlarge.8	64	512	1

6 Lifecycle

A DeH has different statuses throughout its lifecycle.

Table 6-1 DeH statuses

Status	Attribute	Description
Normal	Stable	The DeH is properly running and can provide services for you.
Faulty	Faulty	The DeH becomes faulty and cannot provide services. Contact the customer service.
Deleted	Intermediate	The DeH is deleted. The resources on the DeH will disappear from the DeH console within a few minutes.

7 Basic Concepts

Before using a DeH, you need to understand the following basic concepts.

Glossary	Description
BYOL	BYOL indicates the Bring Your Own License mode. If you have an OS or a software license (a license whose certified items include number of physical sockets and physical cores), you can migrate your services to the cloud platform using the Bring Your Own License (BYOL) mode. Then, you can continue to use your existing licenses.
Region	Regions are divided from the dimensions of 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 as universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides services of the same type only or for specific tenants.
Availability zone (AZ)	An AZ contains one or multiple 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. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems. NOTE For more information, see Region and AZ.
Project	A project groups and isolates IaaS OpenStack resources, such as compute, storage, and network resources. A project can be a department or a team.
	Multiple projects can be created under one account.

Glossary	Description
DeH flavor	A DeH flavor specifies the DeH attributes, including the number of CPUs on the physical server (the number of sockets), number of physical cores, CPU model, memory size, and number of vCPUs.
Elastic Cloud Server (ECS)	ECS is a basic cloud computing service provided by HUAWEI CLOUD. For details, see ECS.

8 Billing

Billing Items

You need to pay for:

- DeH and ECS services
 - DeH: You need to pay for all resources of the DeH, including CPUs, memory, and local disks.
 - For details about the pricing details, see **Product Pricing Details**.
 - Dedicated ECS: Dedicated ECSs created on the DeH are free of charge, and you only need to pay for the EIPs and bandwidths you used.
 For details about the pricing details of EIPs and bandwidth, see Product Pricing Details.
- Associated services (You can purchase resources as required and pay for only what you use. After your DeH expires, you need to release the associated resources to avoid unnecessary expenses.):
 - Elastic IP (EIP): EIP is billed by the number of EIP addresses you purchased. For details, see Billing.
 - Bandwidth: Public network bandwidth is billed by traffic or bandwidth.
 For details, see Billing.
 - Elastic Volume Service (EVS): You can select EVS disks of multiple specifications based on your requirements. EVS disks are billed on a payper-use or yearly/monthly basis. The attached disks used as the system disks in ECSs on DeHs can only be billed on a pay-per-use basis. For details, see Billing.

Billing Mode

- Billing mode: DeHs are billed on a yearly/monthly basis, which is a
 prepayment mode. When you purchase a DeH, the system will deduct the fees
 from your account balance accordingly.
- 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 you enable a resource at 13:23:56 on February 1, 2017, the billing period ends at 00:00:00 on February 2, 2018.

3. Billing unit: DeHs are billed based on the number of physical servers. If you need to purchase, renew, or expand your DeH, select at least one physical server at a time.

Example: If a user purchases two DeHs on February 1, 2017 for one year and enables them at 13:23:56, the billing period ends at 00:00:00 on February 2, 2018. If the user purchases another DeH for one month on January 1, 2018, the billing period of this DeH ends at 00:00:00 February 2, 2018. This user can renew all these three DeHs at the same time. If the user renews these three DeHs for another one year, the renewal billing period starts at 00:00:00 on February 2, 2018, and ends at 00:00:00 on February 3, 2019.

Changing Billing Mode

DeHs can only be billed on a yearly/monthly basis.

Renewal

For details, see Renewal Management.

Expiration and Overdue Payment

For details, see **Service Suspension and Resource Release** and **Payment and Repayment**.

9 Permissions

Background

If you need to assign different permissions to employees in your enterprise to access your DeH resources, IAM is a good choice for fine-grained permissions management. IAM provides identity authentication, permissions management, and access control, helping you securely manage access to your cloud resources.

With IAM, you can create IAM users under your account for your employees, and assign permissions to the users to control their access to specific resource types. For example, some software developers in your enterprise need to use DeH but should not be allowed to delete other DeH resources or perform any other high-risk operations. In this scenario, you can create IAM users for the software developers and grant them only the permissions required for using DeH resources.

If your account does not need individual IAM users for permissions management, you may skip over this chapter.

IAM is free. You pay only for resources purchased using your account. For more information about IAM, see IAM Service Overview.

DeH Permissions

By default, new IAM users do not have permissions assigned. You need to add a user to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from their groups and can perform specified operations on cloud services.

DeH is a project-level service deployed in specific physical regions. When you grant DeH permissions to a user group, set **Scope** to **Region-specific projects** and then select projects for the permissions to take effect. If you select **All projects**, the permissions will take effect for the user group in all region-specific projects. When accessing DeH, the users need to switch to a region where they have been authorized to use this service.

You can grant users permissions by using roles and policies.

 Roles: A type of coarse-grained authorization mechanism that defines permissions related to users responsibilities. Only a limited number of servicelevel roles for authorization are available. If one role has a dependency role

- required for accessing DeH, assign both roles to the users. Roles are not ideal for fine-grained authorization and secure access control.
- Policies: A fine-grained authorization mechanism that defines permissions required to perform operations on specific cloud resources under certain conditions. This mechanism allows for more flexible policy-based authorization, meeting requirements for secure access control. For example, the account administrator can allow IAM users to perform specified management operations on a type of DeH resources.

Table 9-1 describes all system permissions of DeH.

Table 9-1 DeH system permissions

Role/Policy Name	Description	Category
DeH FullAccess	DeH administrator, who has all permissions of DeH	System- defined policy
DeH CommonOpe rations	Basic operation permissions on DeHs	System- defined policy
DeH ReadOnlyAcc ess	Read-only permission on DeHs. Users with this permission can only query DeHs.	System- defined policy

Table 9-2 lists the common operations supported by each system-defined permission of DeH. Select the permissions as needed.

Table 9-2 Common operations supported by each system-defined policy or role

Operation	DeH FullAccess	DeH CommonOperati ons	DeH ReadOnlyAccess
Buying DeHs	√	x	х
Releasing DeHs	√	x	х
Querying DeHs	√	√	√
Querying Details of a DeH	√	√	√
Modifying DeH Attributes	√	√	х
Querying Available DeH Types	√	√	√

Operation	DeH FullAccess	DeH CommonOperati ons	DeH ReadOnlyAccess
Querying DeH Resource Types	√	√	√
Querying DeH Resource Type Details	√	√	√
Querying Available DeH Types	√	√	✓
Querying DeH Resource Types	√	√	√
Querying the AZ to Which a DeH Resource Type Is Bound	✓	✓	√
Querying the Flavor to Which a DeH Resource Type Is Bound	√	√	✓
Querying the Tenant Quota	√	√	√
Creating a DeH Tag	√	√	х
Deleting a DeH Tag	√	√	х
Querying Tags of a DeH	√	√	√
Querying DeH Tags Created by a Tenant	√	√	✓
Querying DeHs by Tag	√	√	√
Querying ECSs on a DeH	√	√	√

10 Constraints

- ECSs automatically created by Auto Scaling (AS) will not be dispatched to DeHs, while ECSs created on DeHs can be manually added to AS groups.
- Only common pay-per-use ECSs can be migrated to DeHs.
- Special ECSs, such as those with local disks or GPUs, cannot be migrated between DeHs or between the public resource pool and DeHs.
- Only public images running OSs except Windows OS can be used to create ECSs on DeHs. If you want to use Windows-based images, create private images and activate the images with their own licenses.

1 1 Comparisons Between ECSs in Resource Pools and ECSs on DeHs

ECSs in resource pools and ECSs on DeHs have almost the same functions except those listed in Table 11-1.

Table 11-1 Comparisons between ECSs in resource pools and ECSs on DeHs

Item	Resource Pool ECS	DeH ECS
Billing items	The total price is determined by the ECS type, specifications (including vCPUs and memory), usage duration, and the number of purchased ECSs.	No additional fees are needed for ECSs on your DeHs. The compute resources used by ECSs on DeHs are free.
Billing mode	Yearly/Monthly or pay-per- use	Free NOTE Currently, only pay-per-use ECSs can be created on DeHs. And no additional fees are needed for the pay-per-use ECSs on DeHs.
ECS flavors	For details, see ECS Types .	The ECSs running on DeHs vary.
Auto recovery	Supported NOTE The ECS supports automatic failover. If the physical server accommodating the ECS becomes faulty, the ECS can be automatically migrated to a properly running physical server, ensuring service continuity.	Supported NOTE If a DeH becomes faulty, the system will select a server from the unprovisioned servers to replace the faulty DeH and automatically migrate the ECSs deployed on the faulty DeH to the new DeH, ensuring high service availability.

12 Change History

Released On	Description
2023-08-17	This issue is the eighth official release. Updated Overview, General Computing DeHs, and General Computing-Plus DeHs and added DeH flavors s7n and c7n_pro.
2023-06-08	This issue is the seventh official release. Added the s7 DeH specification in Overview and General Computing DeHs .
2022-02-07	This issue is the sixth official release. Added DeH Infographics .
2021-10-28	This issue is the fifth official release. Added: Permissions
2021-02-24	This issue is the fourth official release. Added s6 and s6_pro DeHs and the allowed ECS flavors on them in General Computing DeHs .
2019-11-30	This issue is the third official release. Added the following restriction in section Constraints: Only free public images can be used to create ECSs on DeHs.
2019-07-30	This issue is the second official release, which incorporates the following changes: • Added General Computing DeHs. • Added Memory-Optimized DeHs. • Added the c3ne DeHs in General Computing-Plus DeHs.
2019-04-10	This issue is the first official release.