

Dedicated Host

Service Overview

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Contents

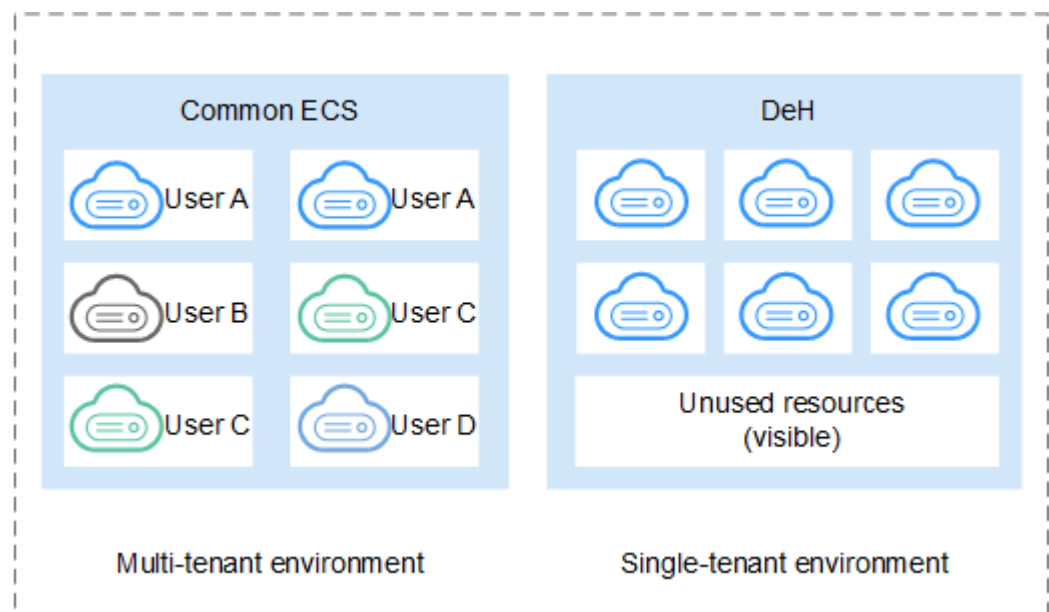
1 Dedicated Host.....	1
2 Application Scenarios.....	3
3 Product Advantages.....	4
4 Categories and Types.....	5
4.1 Overview.....	5
4.2 General Computing DeHs.....	8
4.3 General Computing-Plus DeHs.....	13
4.4 Memory-Optimized DeHs.....	19
5 Lifecycle.....	21
6 Basic Concepts.....	22
7 Billing.....	24
8 Permissions.....	26
9 Constraints.....	29
10 Differences Between ECSs in Resource Pools and ECSs on DeHs.....	30

1 Dedicated Host

A Dedicated Host (DeH) is a physical server fully dedicated for your use 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 1-1 shows the differences between DeHs and common ECSs.

Figure 1-1 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

When deploying an ECS, you can:

- 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 ECSs on a DeH.

Enable **Auto Placement** for DeHs to let the system automatically deploy ECSs on the DeH with the highest available memory based on load balancing requirements.

You can use either of the above methods to deploy ECSs on a DeH. This helps you ensure isolation, security, and compliance for deployed applications, improves resource utilization, and optimizes the ECS performance.

2 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 who want to use their own licenses**

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.

- **Tenants who want to deploy resources independently and manage them flexibly**

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 a public resource pool to a DeH.

3 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, to reduce costs on license.
- **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 meet regulation compliance and surveillance requirements for your sensitive services.
- **Flexibility:** A DeH can be allocated within several minutes, allowing you to buy one at any time you want.
- **Reliability:** DeH provides 99.95% availability.

4 Categories and Types

4.1 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.

The following DeH categories and types are supported:

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

 **NOTE**

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

DeH Category	Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Local Disk	Hardware Specifications	Number of vCPUs
General computing 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 Category	Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Local Disk	Hardware Specifications	Number of vCPUs
	s3_pro	2	22	N/A	CPU: Intel® Xeon® Skylake 6161 v5 (frequency: 2.20 GHz; turbo frequency: 3.00 GHz) Memory: 576 GB (or 589,824 MB)	144
	s6	2	26	N/A	CPU: Intel® Xeon® CascadedLake CPU (frequency: 2.6 GHz; turbo frequency: 3.5 GHz) Memory: 516 GB (or 528,384 MB)	264
	s6_pro	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 (or 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: 912 GB (or 933,888 MB)	276
General computing-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 Category	Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Local Disk	Hardware Specifications	Number of vCPUs
	c3_pro	2	18	N/A	CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) Memory: 256 GB (or 262,144 MB)	64
	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_pro	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 (or 401,408 MB)	98
Memory-optimized 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 Category	Flavor Type	Number of CPUs (Sockets)	Number of Physical 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) Memory: 608 GB (or 622,592 MB)	76

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

4.2 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 4-1 Specifications of s3 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
s3	2	22	<ul style="list-style-type: none"> 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 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
s3_pro	2	22	<ul style="list-style-type: none"> 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 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
s6	2	26	<ul style="list-style-type: none"> 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 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
s6_pro	2	26	<ul style="list-style-type: none"> 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 DeHs

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

Table 4-6 Specifications of s7n DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
s7n	2	28	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.6 GHz; turbo frequency: 3.4 GHz) Memory: 912 GB (or 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 x 22 x 2 - 16) x 2 = 144
- s3_pro DeHs
vCPUs = (2 x 22 x 2 - 16) x 2 = 144
- s6 DeHs
vCPUs = (2 x 26 x 2 - 16) x 3 = 264
- s6_pro DeHs
vCPUs = (2 x 26 x 2 - 16) x 3 = 264
- s7 DeHs
vCPUs = (2 x 38 x 2 - 22) x 3 = 390
- s7n DeHs
vCPUs = (2 x 28 x 2 - 20) x 3 = 276

ECSs Allowed on DeHs

Table 4-7 ECS flavors allowed on s3 DeHs

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 4-8 ECS flavors allowed on s3_pro DeHs

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 4-9 ECS flavors allowed on s6 DeHs

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

Table 4-10 ECS flavors allowed on s6_pro DeHs

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 4-11 ECS flavors allowed on s7 DeHs

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

Table 4-12 ECS flavors allowed on s7n DeHs

ECS Flavor	vCPUs	Memory (GiB)
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

4.3 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 for enterprise-level applications that require enhanced service stability and improved computing performance.
- c3ne DeHs house C3ne ECSs. C3ne ECSs come with the latest 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 packets per second (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 4-13 Specifications of c3 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
c3	2	18	<ul style="list-style-type: none"> • CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 128 GB (or 131,072 MB) 	64

Table 4-14 Specifications of c3_pro DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
c3_pro	2	18	<ul style="list-style-type: none"> • CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 256 GB (or 262,144 MB) 	64

Table 4-15 Specifications of c3ne DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
c3ne	2	18	<ul style="list-style-type: none"> • CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 128 GB (or 131,072 MB) 	64

Table 4-16 Specifications of c6 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
c6	2	22	<ul style="list-style-type: none"> • CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 148 GB (or 151,552 MB) 	74

Table 4-17 Specifications of c6_pro DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
c6_pro	2	22	<ul style="list-style-type: none"> • CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 296 GB (or 303,104 MB) 	74

Table 4-18 Specifications of c7n_pro DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
c7n_pro	2	28	CPU: 3rd Generation Intel® Xeon® Scalable Processor (frequency: 2.6 GHz; turbo frequency: 3.4 GHz) Memory: 392 GB (or 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 = $(2 \times 18 \times 2 - 12) \times 1.07 = 64$
- 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 4-19 ECS flavors allowed on c3 DeHs

ECS Flavor	vCPUs	Memory (GiB)
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 4-20 ECS flavors allowed on c3_pro DeHs

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 4-21 ECS flavors allowed on c3ne DeHs

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 4-22 ECS flavors allowed on c6 DeHs

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

Table 4-23 ECS flavors allowed on c6_pro DeHs

ECS Flavor	vCPUs	Memory (GiB)	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 4-24 ECS flavors allowed on c7n_pro DeHs

ECS Flavor	vCPUs	Memory (GiB)
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

4.4 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. They provide 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 4-25 Specifications of m3 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
m3	2	18	<ul style="list-style-type: none"> • CPU: Intel® Xeon® Skylake 6151 v5 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 512 GB (or 524,288 MB) 	64

Table 4-26 Specifications of m6 DeHs

Flavor Type	Number of CPUs (Sockets)	Number of Physical Cores	Hardware Specifications	Number of vCPUs
m6	2	22	<ul style="list-style-type: none"> • CPU: Intel Cascade Lake 6266 (frequency: 3.00 GHz; turbo frequency: 3.40 GHz) • Memory: 608 GB (or 622,592 MB) 	76

 **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 x 18 x 2 - 12) x 1.07 = 64
- m6 DeHs
vCPUs = (2 x 22 x 2 - 12) x 1 = 76

ECSs Allowed on DeHs

Table 4-27 ECS flavors allowed on m3 DeHs

Flavor Name	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 4-28 ECS flavors allowed on m6 DeHs

Flavor Name	vCPUs	Memory (GiB)	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

5 Lifecycle

A DeH has different statuses throughout its lifecycle.

Table 5-1 DeH statuses

Status	Attribute	Description
Normal	Stable	The DeH is running properly for you to deploy your ECSs.
Faulty	Faulty	The DeH is faulty and cannot provide services. Contact the customer service.
Deleted	Intermediate	The DeH is deleted. The resources on the DeH console will be removed within a few minutes.

6 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 and continue to use your existing licenses.
Region	Regions are defined by their 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. There are universal regions and dedicated regions. A universal region serves all tenants, while a dedicated region serves 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 networking 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 .

7 Billing

Billing Items

You need to pay for:

- DeH and ECS services
 - DeH: all resources of the DeH, including CPUs, memory, and local disks. For details about the pricing details, see [Product Pricing Details](#).
 - Dedicated ECS: EIPs and bandwidths. Dedicated ECSs created on the DeH are free of charge.
- 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 pay-per-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

1. 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 cycle 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 you purchase two DeHs on February 1, 2017 for one year, the billing cycle ends at 00:00:00 on February 2, 2018. If you purchase another DeH for one month on January 1, 2018, the billing cycle of this DeH ends at 00:00:00 February 2, 2018. You can renew all these three DeHs at the same time. If you renew these three DeHs for another one year, the renewal billing cycle 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](#).

8 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 use your account to create IAM users for your employees, and grant 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 require individual IAM users for permissions management, you can skip this section.

IAM can be used free of charge. You pay only for the resources in your account. For more information about IAM, see [IAM Service Overview](#).

DeH Permissions

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

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 service-level 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 8-1 describes all system permissions of DeH.

Table 8-1 DeH system permissions

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

Table 8-2 lists the common operations supported by each system-defined permission of DeH. Select the permissions as needed.

Table 8-2 Common operations supported by each system-defined policy or role

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

Operation	DeH FullAccess	DeH CommonOperations	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	√	√	x
Deleting a DeH Tag	√	√	x
Querying Tags of a DeH	√	√	√
Querying DeH Tags Created by a Tenant	√	√	√
Querying DeHs by Tag	√	√	√
Querying ECSs on a DeH	√	√	√

9 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.

10 Differences 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 10-1](#).

Table 10-1 Differences between ECSs in resource pools and ECSs on DeHs

Item	ECSs in Resources Pools	ECSs on DeHs
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 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 an unprovisioned server as the backup DeH and automatically migrate the ECSs from the faulty DeH to the new DeH, ensuring high service availability.