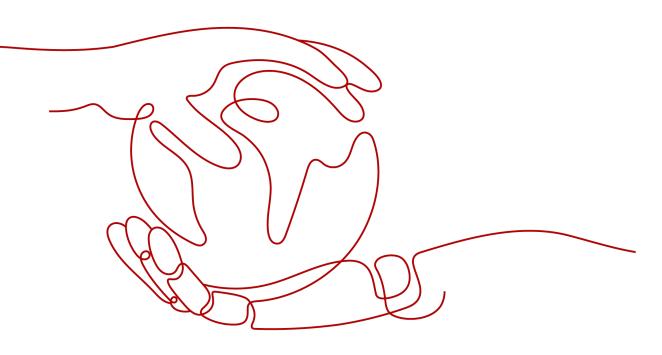
Server Migration Service

Getting Started

 Issue
 11

 Date
 2024-07-24





HUAWEI TECHNOLOGIES CO., LTD.

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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

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Before You Start

Before using SMS, you must:

• Confirm that you have the required permissions.

Your target account must have the **permissions** required to use SMS and its dependent cloud services.

• Confirm that your source server OS is supported by SMS.

You can learn more about supported OSs from the following links:

- Supported Windows OSs
- Supported Linux OSs
- Determine which region you want to migrate to.

You need to know which region you want to migrate to. When you create a migration task, the region specified in the default migration template is used as the target region. You need to confirm that the region is correct.

• Read the SMS precautions.

SMS Precautions

• Back up data on the target server disks, and ensure that the disks can be formatted.

Disks on the target server will be formatted and re-partitioned based on the source disk settings during the migration. If you choose to use an existing server on the cloud as the target server, make sure that any data on the target server has been backed up and that the disks can be formatted.

• (Recommended) Disable any software in conflict with SMS on the source server.

Any antivirus or conflicting software on the server server may prevent the SMS-Agent from start. If you are not sure whether there is a software conflict with the SMS-Agent, back up your data before the migration.

- Confirm that your account balance is enough.
 - SMS is a free service, but you will still be billed for any other resources used during the migration. For details, see **Billing**.

• Know when the target server can be operated.

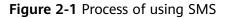
Do not operate the target server before the migration is complete, such as renewing the target server or changing its billing mode.

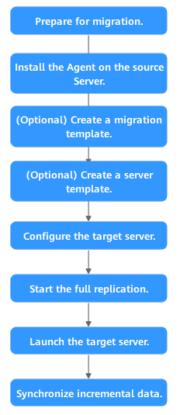
• Learn where to find the solutions to common migration issues.

If you encounter any problem during the migration, try to solve the problem by referring to FAQs.

2 Quick Start

The following figure shows the process of using SMS to migrate a server to Huawei Cloud.





3 Preparing for Migration

Before using SMS, make the following preparations:

1. Register a HUAWEI ID and enable Huawei Cloud services.

D NOTE

Real-name authentication is required for migrating servers to regions within the Chinese mainland.

2. Obtain the required permissions.

If you use an account for migration, you have the required permissions by default. If you use an IAM user for migration, you need to obtain the required permissions. For more information, see **Creating a User Group and Assigning Permissions**.

3. Obtain an AK/SK pair for your target account.

The AK/SK pair is used for authentication during the migration. To learn how to obtain an AK/SK pair, see **How Do I Create an AK/SK Pair for an Account?** or **How Do I Create an AK/SK Pair for an IAM User?**

SMS does not support AK/SK-based authentication for federated users (virtual users).

4. Ensure that the source server OS is supported by SMS.

See Supported Windows OSs or Supported Linux OSs.

- 5. Ensure that the following network requirements are met:
 - a. The source server can connect to the Huawei Cloud API Gateway over TCP port 443. For more information, see **Connecting Source Servers to Huawei Cloud API Gateway**.

NOTE

It is recommended that all outbound ports on the source server be opened.

b. If you want to migrate over an IPv6 network, the source environment must support IPv4/IPv6 dual-stack networks.

- c. The source server can connect to the target server. For more information, see **Connecting Source Servers to Target Servers**.
 - For a migration over the Internet, purchase EIPs in the region you are migrating to.
 - For a migration over a private network, request a Direct Connect or VPN connection.
- d. The following ports are enabled in the security group associated with the target server to allow traffic to these ports:
 - Windows: TCP ports 8899, 8900, and 22
 - Linux: TCP port 22 for file-level migration, and ports 8900 and 22 for block-level migration

- For security purposes, you are advised to open these ports only to the source server.
- The firewall of the target server must allow traffic to these ports.

To learn how to open the ports, see **How Do I Configure Security Group Rules for Target Servers?**

6. Ensure that the following source server requirements are met:

Available Space

- · Windows
 - At least 320 MB of available space on a partition not smaller than 600 MB
 - At least 40 MB of available space on a partition smaller than 600 MB
- Linux

At least 200 MB of available space on the root partition

Source Environment

- The system time of the source server must be consistent with the local standard time to avoid Agent registration failures.
- If the source server runs Linux, rsync must be installed on it. You can run the rsync -v command to check whether rsync is installed.

If it is not, install it by running the following command:

- CentOS: **yum -y install rsync**
- Ubuntu: apt-get -y install rsync
- Debian: apt-get -y install rsync
- SUSE: zypper install rsync
- For other distributions, refer to the official website documentation.

rsync comes preinstalled on most distributions by default.

4 Installing the Agent on the Source Server

4.1 Installing the Agent on Windows

Scenarios

You need to install the Agent on the source server to be migrated. During the installation, you need to enter the AK/SK pair of the Huawei Cloud account you are migrating to. After the Agent is started, it automatically reports source server information to SMS. The information is used for migration only. For details, see What Information Does SMS Collect About Source Servers?

There are two options for Windows:

- GUI-based Windows Agent (Python 3): Windows Server 2019/2016/2012 and Windows 10/8.1
- CLI-based Windows Agent (Python 2): Windows Server 2008 and Windows 7

You must log in to the source server as user Administrator.

Prerequisites

- You have obtained the AK/SK pair of your Huawei Cloud account.
 - If you use an IAM user for migration, obtain an AK/SK pair by referring to How Do I Create an AK/SK Pair for an IAM User?
 - If you use an account for migration, obtain an AK/SK pair by referring to How Do I Create an AK/SK Pair for an Account?
- You have obtained the administrator permissions for the source server.
- You have confirmed that the source server OS is supported by SMS. For details, see **Supported Windows OSs**.

• There is no antivirus software installed on the source server. Antivirus software may prevent the Agent from starting up.

In case of Agent startup failures caused by antivirus software, see **How Do I Fix Error "Failed to start the I/O monitoring module" When I Start the Agent?**

Downloading the Agent Installation File

- **Step 1** Log in to the **SMS console**.
- **Step 2** In the navigation pane on the left, choose **Agents**.
- Step 3 Select the Windows card, locate the Agent that matches the source server OS,

```
and click the 📥 icon next to Agent.
```

- GUI-based Windows Agent (Python 3): Windows Server 2019, Windows Server 2016, Windows Server 2012, Windows 10, and Windows 8.1
- CLI-based Windows Agent (Python 2): Windows Server 2008 and Windows 7

SMS	Agents	🖸 U:
Dashboard	Source OS	
Agents Templates	∆ Linux III Windows	
Proxy Servers	Prepare ① Cottain an AXOK part for the target account Children Hone ? Download the Agent ②	
	Windows Apent (Python 3)	
	Store 692-248 Store 418.008 Updatind June 27, 2024, 622-493.05MT-68-00 Updatind June 27, 2024, 622-47.51.06MT-68.00 OS Windows Server 2016Windows Server 2016Windows Server 2012Win. OS Windows Server 2016Windows 7	
	Agent https://ums-agent-3-0.obs.c 3.huarvel.com/SMS-Agent- k Agent https://ums-agent-3-0.obs.c huarvel.com/SMS-Agent- 2 P/3.exe	÷
	SHA256 File https://sms-agent-3-0.obs.c huavel.com/SMS-Agent- & SHA256 File https://sms-agent-3-0.obs huavel.com/SMS-Agent- a Py3.exes.sha256 Pi/2.exes.sha256	±.
	Verity File Integrity Verity File Integrity	

- **Step 4** Read and agree to the service disclaimer, and click **Yes** to download the Agent installation package.
- **Step 5** Click the icon next to **SHA256 File** to save the file that contains the hash value to a local directory. Verify the integrity of the Agent installation package. For details, see **How Do I Verify the Integrity of the Agent Installation File?**

Download the Agent 💿						
Windows Agent (P)	then 3) 💿		Windows Agent (Pyt	hon 2) ③		
Size	69.2 MB		Size	41.8 MB		
Updated	Jun 27, 2024, 02:49:03 GMT+08:00		Updated	Jun 27, 2024, 02:47:51 GMT+08:00		
OS	Windows Server 2019/Windows Server 2016/Windows Server 2012/Windows 10/Windows 8.1		os	Windows Server 2008/Windows 7		
Agent	https://sms-agent-3-0.obs./ /huawei.com/SMS-Agent-Py3.exe &		Agent	https://sms-agent-3-0.obs.c huavvei.com/SMS-Agent-Py2.exe &		
SHA256 File	https://sms-agent-3-0.obs.).huawei.com/SMS-Agent-Py3.exe.sha256 🔔		SHA255 File	https://sms-agent-3-0.obs.c >.huawei.com/SMS-Agent-Py2.exe.sha256		
Verify File Integrity			Verify File Integrity			

----End

Installing the Windows Agent (Python 3)

- Step 1 Transmit the SMS-Agent-Py3.exe file to the source server.
- Step 2 Log in to the source server as user Administrator and double-click the SMS-Agent-Py3.exe file.
- **Step 3** Click **Install** and wait for the installation to complete.
- **Step 4** Click **Finish**. The SMS-Agent GUI is displayed.

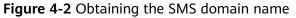
- **Step 5** Enter the AK/SK pair of the Huawei Cloud account and the SMS domain name in the region you are migrating to. You can obtain the SMS domain name on the **Agents** page of the SMS console, as shown in **Figure 4-2**.
 - If you do not need to use an HTTP/HTTPS proxy, select **Direct Connection**.
 - If you need to use an HTTP/HTTPS proxy, select **Use Proxy** and enter the IP address, port number, username, and password of the proxy server.

NOTE

- Proxy Server IP: Follow the format https://your-proxy-addr.com. Use the protocol configured for your proxy server. HTTPS is recommended. Replace your-proxy-addr with the IP address of your proxy server, not that of the target server.
- **Port**: Enter the port used by the proxy server. The default port is 3128.
- Proxy user name: Enter the username required for using the proxy software. If none is required, leave this parameter blank.
- **Password**: Enter the password corresponding to the proxy username. If none is required, leave this parameter blank.

Figure 4-1 Starting the Agent

🐻 running	-		×
Enter an AK.	¢		
Enter an SK.	*******		
Enter an sms_domain:	· · · · · ·		
Direct Connection	C Use Proxy		
Proxy server IP :			
Port :			
Proxy user name :			
Password :			
Run log			
Uploading the	ject selected rce information source information	^	
Upload success Waiting for the console for the	e SMS instruction, go to the SMS e next step	*	
start	hide		



	Agents				C us
icerd	Source OS				
8 ates	∆ un	ux	Windows		
aas Sanvars		KISK pair for the target account.Obtain Nov 🕑			
	O Download	ns Agent (Python 3) ③		Windows Agent (Python II 💿
	Size Update OS Agent SHA25 Verty F	Windows Server 2019/Windows Server 20 https://www-agent-3-0.o	$\label{eq:several} \begin{array}{l} 150 \mbox{Modeus B1} \\ \mbox{Sever 20120} \mbox{Modeus B1} \\ \mbox{Sever 20120} \mbox{Set} \\ \mbox{Modeus ContSM5-Agert-PySever 20125} \\ \mbox{Modeus ContSM5-Agert-PySever 20125} \\ \mbox{Modeus ContSM5-Agert-PySever 20120} \\ Modeus ContSM5-Agert-PySever $	Size Updated OS Agent SHA256 File Vestly File Integrity	थी 19 10 का 27 20 1 Ge 25 (de 24 Ger-14 co 19 0an 28 and 20 0 Houses) ? मिश्रा Strate agent 3 & de 4 (Naveni caret 50 65 Agent Py2 en a Action 19 21 Strate agent 3 & de 4 (Naveni caret 50 65 Agent Py2 en a Action 4 (Agent Py2 en a Action 4 (A
			Is start the Agent. If the Agent tails to be started, see Solution (2) Enter the SMS domain sins c	same Navai con 🗗	Coptional Sect as estrapole project Exect the estrapole project Exect the estrapole project when the larget over its managed.

Step 6 You must enable the EPS service for the Huawei Cloud account you migrate to. When you start the Agent installed on a source server, the Agent lists all enterprise projects the account is allowed to access. You can select the enterprise you desire. Then the server will be migrated to the enterprise project. This enables you to isolate permissions, resources, and finance during the migration. For details, see **Migrating Servers into an Enterprise Project**.

- **Step 7** Click **Start**.
- Step 8 Carefully review the Privacy Statement and click Yes if you want to continue.

When the message "Upload success. Waiting for the SMS instruction" is displayed, the Agent has been started. You need to log in to the SMS console and perform subsequent operations.

----End

Installing the Windows Agent (Python 2)

- Step 1 Transmit the SMS-Agent-Py2.exe file to the source server.
- Step 2 Log in to the source server as user Administrator and double-click the SMS-Agent-Py2.exe file.
- **Step 3** Click **Install** and wait for the installation to complete.
- **Step 4** Click **Finish**. The SMS-Agent CLI is displayed.

NOTE

To manually start the Agent when needed, double-click **agent-start.exe** in the directory **C:\SMS-Agent-Py2** where the Agent was installed.

Step 5 If you need to use an HTTP/HTTPS proxy, go to **Step 6**.

If you do not need to use an HTTP/HTTPS proxy, go to Step 7.

NOTE

- If your source server cannot access Huawei Cloud over the Internet, a proxy server can help you. You need to configure a proxy server by yourself.
- The proxy is used for registering the source server with SMS when a Direct Connect or VPN connection is used. It is not used for data migration.
- **Step 6** Configure an HTTP/HTTPS proxy server.

Go to the directory where the Agent was installed (typically C:\SMS-Agent-Py2\config) and edit the **auth.cfg** file. Do not edit the **auth.cfg** file unless you need to use an HTTP/HTTPS proxy server.

[proxy-config] enable = true proxy_addr = https://your-proxy-addr.com proxy_port = proxyport proxy_user = use_password = false

D NOTE

- enable: To use a proxy server, set this parameter to true.
- **proxy_addr**: Replace *your-proxy-addr* with the IP address of the proxy server, not that of the target server. Use the protocol configured for your proxy server. HTTPS is recommended.
- **proxy_user**: Enter the username for logging in to the proxy server. If no username is required, leave it blank.
- **use_password**: If a password is required for logging in to the proxy server, set it to **true**. If none is required, set it to **false**.
- **Step 7** When prompted, enter the AK/SK pair of the Huawei Cloud account and the SMS domain name in the region you are migrating to. You can obtain the SMS domain name on the **Agents** page of the SMS console, as shown in **Figure 4-3**.

You must enable the EPS service for the Huawei Cloud account you migrate to. When you start the Agent installed on a source server, the Agent lists all enterprise projects the account is allowed to access. You can select the enterprise you desire. Then the server will be migrated to the enterprise project. This enables you to isolate permissions, resources, and finance during the migration. For details, see **Migrating Servers into an Enterprise Project**.

SMS	Agents	🗅 Us
Dashboard	Source OS	
Agents	👌 Linux 🗰 Windows	
Templates Proxy Servers	Prepare ① Chara no. ANGS part for the target encount. Charachean New ① Chara no. ANGS part for the target encount. Charachean New ① Charachean New Agent ①	
	Windows Agent (Python 3) 🕥	
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	DervASK Derv 2 Derv	

Figure 4-3 Obtaining the SMS domain name

After the authentication succeeds, the Agent starts to report source server information to SMS, and the window is closed. You can go to the **Servers** page on the SMS console to view the record of the source server.

----End

Troubleshooting

- How Do I Resolve Error "AK/SK authentication failed. Ensure that the system time is consistent with the standard time and the AK and SK are correct" When I Start the Agent?
- Why Wasn't My Source Server Added to the SMS Console After I Configured the Agent?

4.2 Installing the Agent on Linux

Scenarios

You need to install the Agent on the Linux source server to be migrated. During the installation, you need to enter the AK/SK pair of the Huawei Cloud account you are migrating to. After the Agent is started, it automatically reports source server information to SMS. The information is used for migration only. For details, see What Information Does SMS Collect About Source Servers?

Prerequisites

- You have obtained the AK/SK pair of your Huawei Cloud account.
 - If you use an IAM user for migration, obtain an AK/SK pair by referring to How Do I Create an AK/SK Pair for an IAM User?
 - If you use an account for migration, obtain an AK/SK pair by referring to How Do I Create an AK/SK Pair for an Account?
- You have confirmed that the source server OS is supported by SMS. For details, see **Supported Linux OSs**.

Procedure

- **Step 1** Log in to the **SMS console**.
- **Step 2** In the navigation pane on the left, choose **Agents**.
- **Step 3** Select the **Linux** card, and in the **Linux Agent** download pane, click the ^{CI} icon next to **Agent** to copy the Agent download command. Then download the Agent installation package from the source server.

SMS	Age	nts
Dashboard	s	ource OS
Servers Agents	ſ	🛕 Linux 🗮 Windows
Templates Proxy Servers	0	Prepare ③
		Obtain an AK/SK pair for the target account.Obtain New 🕐
	0	Download the Agent .
		Linux Agent
		Size 106.9 MB
		Updated Jun 27, 2024, 02:40:26 GMT+08:00
	<	Agent URL wget -I 3 -T 15 https://sms-agent-3-0.obs huawei.com/SMS-Agent.tar.gz
		SHA256 File wget -1 3 -T 15 https://sms-agent-3-0.obs p.huawel.com/SMS-Agent.tar.gz.sha256 []
		Verify File Integrity
	0	Install and start the Agent Enter the AVCR pair of the target account and the SMD domain name to start the Agent. If the Agent fails to be started, see Statuton
		Enter AKSK Cottom Nove C Insurent Come

Step 4 In the Click **SHA256 File**. Copy the command for downloading the SHA256 file and run the command on the source server. Use the hash value contained in the SHA256 file to verify the integrity of the Agent installation package. For details, see **How Do I Verify the Integrity of the Agent Installation File**?

Linux Agent		
Size	106.9 MB	
Updated	Jun 27, 2024, 02:40:26 GMT+08:00	
Agent URL	wget -t 3 -T 15 https://sms-agent-3-0.obs	.huawei.com/SMS-Agent.tar.gz
SHA256 File	wget -t 3 -T 15 https://sms-agent-3-0.obs.).huawei.com/SMS-Agent.tar.gz.sha256

- **Step 5** Decompress the Agent software package. tar -zxvf SMS-Agent.tar.gz
- **Step 6** Switch to the **SMS-Agent** directory on the source server.
- Step 7 If you need to use an HTTP/HTTPS proxy, go to Step 8.

If you do not need to use an HTTP/HTTPS proxy, go to Step 9.

- If your source server cannot access Huawei Cloud over the Internet, a proxy server can help you. You need to configure a proxy by yourself.
- The proxy is used for registering the source server with SMS when a Direct Connect or VPN connection is used. It is not used for data migration.

Step 8 Configure an HTTP/HTTPS proxy.

- 1. Go to the **config** directory. cd SMS-Agent/agent/config
- Open and edit the auth.cfg file. Do not edit the auth.cfg file unless you need to use an HTTP/HTTPS proxy. vi auth.cfg

The values shown here are for reference only.

[proxy-config] enable = true proxy_addr = https://your-proxy-addr.com proxy_port = 3128 proxy_user = root use_password = true

NOTE

- enable: To use the proxy, set it to true.
- proxy_addr: Enter the IP address of the proxy server. The proxy is used by the source server to access SMS. This IP address is different from the IP address of the target server. Use the protocol configured for your proxy server. HTTPS is recommended.
- proxy_user: Enter the username for logging in to the proxy server. If no username is required, leave it blank.
- use_password: If a password is required for logging in to the proxy server, set it to true. If none is required, set it to false.
- 3. Save the **auth.cfg** file and exit.
 - :wq

Step 9 Start the Agent.

./startup.sh

Step 10 Carefully review what information will be collected by the Agent, enter **y**, and press **Enter**.

Figure 4-4 Entering y



Step 11 Enter the AK/SK pair of the Huawei Cloud account and the SMS domain name in the region you are migrating to. You can obtain the SMS domain name on the **Agents** page of the SMS console, as shown in **Figure 4-6**.

Figure 4-5 Entering the AK/SK pair

fter being started, the migration Agent collects system configuration information	n and uploads th	ne information	to SMS for migra
on task creation. The information to be collected includes server IP address and	MAC address. Fo	or details, see	the Server Mig
ion Service User Guide. Are you sure you want to collect the information?(y/n)y			
lease input AK(Access Key ID) of Pulbic Cloud:			
lease input SK(Secret Access Key) of Pulbic Cloud:********			
lease input smsdomain of Public Cloud: sms.(.huawei.com			

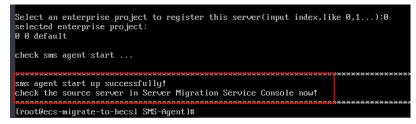
Figure 4-6 Obtaining the SMS domain name

SMS	Agents
Dashboard Servers	Source OS
Agents	🔬 Linux
Proxy Servers	Prepare Ottain an AKGK pair for the target account. Obtain New []
	O Download the Agent ③
	Linux Agent Size 106 9 MB
	Updated Jun 27, 2024, 02:40:26 GMT+08:00 C Agent URL wget -1 3 -T 15 https://sms-agent-3-0.obs/huaveic.com/SMS-Agent.tar.gz //
	SHU256 File weget +3 -T 15 https://ams-agent-3-0.obs >huavet.com/5M5-Agent.tar.gz.sha255 // Venty File Integety
	Install and start the Agent Enter the AVSK pair of the larget account and the SMS domain name to start the Agent. If the Agent fails to be started, see Solution
	Enter AK/SK Citizen New C

You must enable the EPS service for the Huawei Cloud account you migrate to. When you start the Agent installed on a source server, the Agent lists all enterprise projects the account is allowed to access. You can select the enterprise you desire. Then the server will be migrated to the enterprise project. This enables you to isolate permissions, resources, and finance during the migration. For details, see **Migrating Servers into an Enterprise Project**.

When the following information is displayed, the Agent has been started up and will start reporting source server information to SMS. You can go to the **Servers** page on the SMS console to view the record of the source server.

Figure 4-7 Agent running



----End

Troubleshooting

- How Do I Resolve Error "No such file or directory: 'rsync':'rsync" When I Start the Linux Agent?
- How Do I Resolve Error "AK/SK authentication failed. Ensure that the system time is consistent with the standard time and the AK and SK are correct" When I Start the Agent?
- Why Wasn't My Source Server Added to the SMS Console After I Configured the Agent?

5 (Optional) Creating a Migration Template

SMS allows you to create migration templates for quick configuration. When you configure the migration settings, you can use a template to quickly configure parameters **Network**, **Migration Rate Limit**, **Continuous Synchronization Region**, and **Project**. For details, see **Creating a Migration Template**.

6 (Optional) Creating a Server Template

SMS allows you to create server templates for quick configuration. When you configure a target server, you can use a template to quickly configure parameters such as **VPC**, **Subnet**, and **Security Group**. For details, see **Creating a Server Template**.

7 Configuring the Target Server

Scenarios

Before starting the migration, you need to configure the target server. The target server is used to receive data from the source server. You can clone the target server for service testing, and launch the target server after you verify that your services can run properly on the target server.

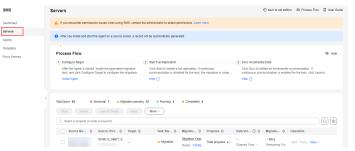
Prerequisites

The migration task is in the **Ready** status.

Procedure

- **Step 1** Log in to the **SMS console**.
- **Step 2** In the navigation pane on the left, choose **Servers**.

Figure 7-1 Server list



Step 3 In the server list, locate the source server to be migrated and click **Configure Target** in the **Migration Stage/Status** column.

You can also choose **More > Configure Target** in the **Operation** column.

NOTICE

If you do not find your source server, check whether you have logged in to the account you are migrating to.

Total tasks 10 o Abnormal 1 🛆 Migrati	ion pending 8 🛛 Running 0 o Co	mpleted 1			
Start Pause Launch Target	Sync More ~				
Q Source Name Add filter					×Q
Source Name/ID 😑 Source OSI	P Address 😑 🛛 Target 🖯	Task Status 🖯	Migration Stage/ 😑 Progress 🖯	Data Volume 🕥 🖯	Migration Speed 🕘 Operation
	3_4_64BIT	▲ Migration pending	Migration Feasibility Che Ready Configure Targe	1 Elapsed Time:	- Mb/s Start Pause More +
Total Records: 1 10 🗸 (1) >					View Delete Configure Target
					< Manage Target
					Delete Target Configuration
					Set Migration Rate < Manage Migration Settings

Step 4 On the **Configure Basic Settings** page, configure parameters by referring to **Table 7-1**.

Parameter	Option	Description
Migration Template	N/A	After you select a migration template, the system populates Network , Migration Rate Limit, Migration Method, Continuous Synchronization , Partition Resizing, Region , and Project based on the template. You can choose the default template created by the system or any one you created. To learn how to create a migration template, see Creating a Migration Template .
Network Type	Public	An EIP must be bound to the target server.
		Public is the default value of Network Type .
	Private	A Direct Connect connection, VPN connection, VPC peering connection, VPC subnet, or Cloud Connect connection must be provisioned. The private IP address of the target server will be used for migration.
Migration Rate Limit	-	You can configure the rate limiting based on the source bandwidth and service requirements.
		If you do not want to limit the migration rate, set this parameter to 0 .
		NOTE For a Linux migration, traffic limiting is done with Traffic Control (TC). If TC is not installed on the source server, the migration rate limit you configured here will not be applied during the migration.
		Some Linux distributions do not support traffic limiting. For example, CentOS 8 and other CentOS 8-based distributions do not come with the TC module preinstalled.

Table 7-1 Basic parameter settings

Parameter	Option	Description
CPU Limit Memory Limit	N/A	These options are only available for Linux migrations. For details, see How
Disk Throughput Limit	-	Do I Set Resource Limits for SMS- Agent During a Linux Server Migration?
Migration Method	Linux block- level	Migration and synchronization are performed by block. This method is efficient but the compatibility is poor.
	Linux file-level	Migration and synchronization are performed by file. This method is inefficient, but the compatibility is excellent.
	Windows block-level	Migration and synchronization are performed by block. This method is very efficient and is the only migration method available for Windows servers.
IP Address Version	IPv4	IPv4 can be used for data migration.
	IPv6	On a dual-stack network, IPv6 can be used for migration. For details about the preparations and precautions for migration over IPv6, see Migrating Servers over an IPv6 Network .
Continuous Synchronization	No	After the full replication is complete, SMS will automatically launch the target server without synchronizing incremental data. To synchronize incremental data, you will need to click Sync in the Operation column.
	Yes	After the full replication is complete, the migration will enter the continuous synchronization stage. During this stage, incremental data will be periodically synchronized from the source server to the target server, and you will be unable to use the target server since it has not been launched yet. To finish this stage, you will need to click Launch Target in the Operation column.
Partition Resizing	No	The disk and partition settings from the source server will be retained on the target server.
	Yes	You can resize the disks and partitions on the target server. For details, see Resizing disks and partitions .

Parameter	Option	Description
Start Target Upon Launch	No	The target server will be stopped after the migration is complete.
	Yes	The target server will be started after the migration is complete.
Measure Network Performance	No	Network performance will not be measured.
	Yes	Before the full migration starts, the packet loss rate, network jitter, network latency, bandwidth, memory usage, and CPU usage will be measured. For details, see How Do I Measure the Network Performance Before the Migration?
Enable Concurrency	No	By default, one process is used for migration and synchronization.
	Yes	You need to set Max. Concurrent Migrations and Max. Concurrent Syncs, which determine the maximum number of processes the Agent can start concurrently to execute migration and synchronization. This parameter is available for Linux file-level migrations. To learn how to configure it, see How Do I Set the Number of Concurrent Processes for Linux File-Level Migrations?

• Resizing disks and partitions

1. Select **Yes** for **Partition Resizing** and click **Resize Partition**. In the displayed dialog box, resize the disks and partitions on the target server as needed.

Figure 7-2 Resizing disks and partitions (Windows)

Resize	Partition											
				1 Con	figure Disks	- 2 0	onfirm					
Source Dis	šk	Target Disk	A In a block-level i	migration, disk size	can only be increased	1. ×						
Disk	Disk 0	C	Disk: Disk 0	P	artition Style: MBR		Size	: 40 GiB 0 MB		Allocated:	39 GiB 1	022 MB
Size	40 GIB 0 MB	Partition	File System	Current Size	Used	Mount	Migrate	New Size				
Allocated	39 GIB 1022 MB	(Reserved)	NTFS	500 MB	392 MB		Yes 🗸	- 0	+ Gil	- 500	+	МВ
		C:\	NTFS	39 GiB 522 MB	35 GIB 240 MB		Yes 🗸	- 39	+ Gi	- 522	+	MB
		Resize the disk	to fit the partition size.	Resize Disk)							
Disk	Disk 1	C	Disk: Disk 1	P	artition Style: MBR		Size:	19 GiB 1023 MB		Allocated:	19 GiB 1	021 MB
Size	19 GIB 1023 MB	Partition	File System	Current Size	Used	Mount	Migrate	New Size				
Allocated	19 GiB 1021 MB	D:\	NTFS	19 GiB 1021	539 MB		Yes 🗸	- 19	+ Gil	- 1,02	1 +	МВ
		Resize the disk	to fit the partition size.	Resize Disk)							
Disk Over	view 😞											
Diek				Turrent Size				Now Ciza				
											+ Confirm	Cancol

Figure 7-3 Resizing disks and partitions (Linux)

Resize Partition		×
Source Disk	Configure Volume Groups Configure Disks (3) Confirm Target Disk	
Disk /dev/vda	Disk: /dev/vda Partition Style: MBR Size: 40 GiB 0 MB Allocated: 39 GiB 1023 MB	
Size 40 GIB 0 MB	Partition File System Current Size Used Mount Migrate New Size	
Allocated 39 GiB 1023 MB	/dev/vde1 ext4 39 GIB 1023 MB 5 GIB 26 MB / Yes - 39 + GIB - 1,023 + MB	
	Resize the disk to fit the partition size. (Resize Disk	
Disk Overview		
Disk	Current Size New Size	
/dev/vda	40 GIB 0 MB 40 GIB 0 MB	
	Next Confirm Previous Cancel	

NOTE

- You can choose whether to migrate source partitions and resize the paired target partitions.
- For a Linux server using LVM, you can choose whether to migrate physical or logical volumes and resize the paired target volumes.

- In a Windows migration, the system and boot partitions are migrated by default.
- In a Windows migration, you can increase the sizes of partitions, but you cannot decrease them.
- Partition resizing is not available for Btrfs partitions on Linux.
- In a Linux migration, the system and swap partitions are migrated by default.
- You can choose to migrate all or none volume groups by configuring **Migrate All Volume Groups**.
- If you choose to migrate none of the logical volumes in a volume group, their physical volumes will not be migrated by default.
- In a Linux block-level migration, you can increase the sizes of partitions, but you cannot decrease them.
- In a Linux file-level migration, you can increase or decrease size of each partition. The new partition size must be at least 1 GB larger than the used partition space. If the current partition size is not 1 GB larger than the used partition space, the partition size cannot be decreased. For details, see What Are the Rules for Resizing Volume Groups, Disks, and Partitions?
- If the total partition size after resizing is larger than the disk size, you need to expand the disk capacity to fit the partition size.
- If the total partition size after resizing is much smaller than the disk size, you can decrease the disk size as needed.

2. Click **Next: Configure Disks**. Resize the disks as needed. Then confirm the configurations and click **OK**.

After you click **OK**, the value of **Partition Resizing** cannot be changed from **Yes** to **No**. If you want to restore the disk partition settings as they were, locate the source server to be migrated and choose **More** > **Delete** in the **Operation** column. Then restart the Agent on the source server, configure the target server again, and set **Partition Resizing** to **No**.

Step 5 Click **Next: Configure Target** in the lower right corner.

Figure 7-4 Configure Target

configure Basic Settings	: 2 Confi	gure Target		
* Region	•		~	
Project			~	
* Server	2.If you switch service	is over to a cloned targe	w S will be created by default. You can change its billing to server, the target server will use the same login cre ty after migration, the target server will be formatte	dentials as the source server.
	For a global search, ent		Q For a search on the current page, enter	
Name V Source: Name	For a global search, ent		Q For a search on the current page, enter Des: CENTOS_7_6_64BIT System Disk: 40 GIB OS	
Source:	For a global search, enh		get: OS: CENTOS_7_6_64BIT System Disk: 40 GiB	3 Create Now
Source:	For a global search, entr		OS: CENTOS_7_6_64BIT System Disk: 40 GiB	Create Now Disk
Source:	For a global search, entr		os CENTOS_7_6_64BIT System Disk: 40 GIB OS CentOS 7.9 64bit	3 Create Now Disk System Disk: 40 GiB
Source:	For a global search, enti		os. CENTOS_7_6_64BIT System Disk: 40 GiB OS CentOS 7.9 64bit Ubuntu 18.04 server 64bit	Create Now Disk System Disk: 40 GIB System Disk: 40 GIB

Step 6 On the **Configure Target** page, set parameters as prompted.

Parameter	Option	Operation
Region	-	Select a region where you want to provision the target server. Consider your service requirements when selecting a region.
Project	-	Select a project in the region from the drop- down list. You can select a project only after a region is selected.
Server	Use existing	Select an existing server based on the recommended specifications above the server list. For details, see Use existing .
	Create new	Configure VPC, Subnet, Security Group, and the parameters in Advanced Settings. For details, see Create new.

 Table 7-2 Parameters for configuring a target server

• Use existing

The target server must meet requirements listed below. If no existing server meets the requirements, click **Create Now** to create one based on the recommended specifications. For details, see **Purchasing an ECS**.

NOTE

Source servers can be migrated to pay-per-use or yearly/monthly ECSs. You can select ECSs of whichever billing mode is appropriate.

- A target server running Windows must have at least 2 GB of memory.
- A target server must have at least as many disks as the source server, and each disk on the target server must be at least the size recommended by the system.
- A target server must run the same OS as the source server, or there will be a server name conflict or other problems.
- A target server must be reachable by the source server. An EIP must be bound to the target server, or a VPN or Direct Connect connection must be established between the source and target.
- The security group of the target server must be correctly configured. It must be configured to allow access on TCP ports 8899, 8900, and 22 for a Windows migration, on ports 8900 and 22 for a Linux block-level migration, or on port 22 for a Linux file-level migration.

- For security purposes, you are advised to open these ports only to the source server.
- The firewall of the target server must allow traffic to these ports.

For details, see **How Do I Configure Security Group Rules for Target Servers?**

- Create new
 - If you select **Recommended** for **Server Template**, a VPC, subnet, and security group will be automatically created based on source settings. You can change the recommended settings as needed.

Advanced options such as the server name, AZ, specifications, system disk, data disk and EIP are automatically configured. You can change the settings as needed.

Figure 7-5 Recommended

Configure Basic Settings	Configu	ire Target		Confirm				
* Region	0		~					
Project	· · · ·		~					
* Server	Use existing	Create	new					
	1.If you select Create no 2.If you switch services To ensure that the targ	over to a cloned to	arget serve	er, the target serve	r will use the same	e login credentials	as the source se	erver.
Server Template	Recommen							
Server Template	Recommen	1 te						
Server Template	Recommen	te te						
Server Template	Recommen							
. [Recommen	te	~					
VPC (Ξ	te	~	Automatical	y assign IP addres	55		

Figure 7-6 Advanced Settings

ame				
z	Random	AZ2	AZ1	AZ3
pecifications	vCPUs All	→ Memory	All	V Flavor Nar
	General computing	General computing-plus	Al-accelerated	Memory-optimiz
	s6.small.1		1 vCPUs 1 GiB	
	s7.small.1		1 vCPUs 1 GiB	
	s7n.small.1		1 vCPUs 1 GiB	
	st6.small.1		1 vCPUs 1 GiB	
	Sit3.medium.2		1 vCPUs 2 GiB	
	s3.medium.2		1 vCPUs 2 GiB	
	Selected General specifications	computing st6.medium.2 1 vCl	PUs 2 GIB	
age	Public image	Private image Shared	Iimage	
	& CentOS	CentOS 7.6 64bit for	eu Tenant 20230516 (40	GiB) 🗸 🖓

- Data disks must be either VBD or SCSI. VBD is the default device type for data disks. For details about disk device types, see Device Types and Usage Instructions.
- Data disks can be created as shared disks. For details about shared disks, see Shared EVS Disks and Usage Instructions.
- If you select a custom template, the VPC, subnet, security group, AZ, and disk will be populated based on the template. You can change the settings as needed. To learn how to create a server template, see Creating a Server Template.

If you select Recommended for Server Template, SMS will automatically:

Create a VPC and subnet.

If the source IP address is 192.168.*X.X*, SMS creates a VPC and a subnet that both belong to the network range 192.168.0.0/16.

If the source IP address is 172.16.*X.X*, SMS creates a VPC and a subnet that both belong to the network range 172.16.0.0/12.

If the source IP address is 10.*X.X.X*, SMS creates a VPC and a subnet that both belong to the network range 10.0.0.0/8.

Create a security group and allow traffic to the target server over the ports required by SMS: ports 8899, 8900, and 22 for a Windows migration, ports 8900 and 22 for a Linux block-level migration, or port 22 for a Linux filelevel migration.

Step 7 Click **Next: Confirm** in the lower right corner.

Figure 7-7 The configuration confirmation page

ource Server		Private IP Address		Added	33 days ago
arso		PTVIER IP Address		A0003	11 DB/E 800
8	CENT08_7_6_648IT	Specifications	1 vCPUs 1.79 GIB	Disk	System Disk: 48 OiB
orfigure Basic Settings					
nterprise Project		Network Type	Public IPv4	Migration Rate Limit	0 Molto
igration Method	File-level	Partition Residing	No	Continuous Synchronization	No
lart Target Upon Launch	Yes	Measure Network Performance	No	Special Configuration	No
etwork					
PC	abots	Sabret	abcd	Security Group	default
ivate IP Address		EP		Bandwidth	1 Moltis (5_g-wm)
inget Server					
egion		AZ	A21	Name	
8	CentOS 7.9 64bit	Specifications	General computing SI2.small.1 1 vCPUs 1 GIB	Disk	System Disk (Common VO): 40 GiB

Step 8 (Optional) Click Save as Server Template. In the displayed Create Server Template dialog box, enter a template name and click OK to save the target server settings as a template.

NOTE

Save as Server Template is available only when you select Create new for Server.

Figure 7-8 Create Server Template

Create Server	Template			×
	et, security group, and o s a new template.	disk attributes of th	e target server	×
Template Name	Enter a template nam	lē.		
Configuration &				
Region/Project				
Subnet	Create during migration			
Security Group	Create during migration	on		
AZ	Random	AZ2		
	AZ1	AZ3		
Disk	High I/O			
		(Cancel	ок

Step 9 Confirm the configuration and click **Save**. In the displayed dialog box, read the migration conditions and click **OK**.

If you want to start the migration immediately, click **Save and Start**. In the displayed dialog box, read the migration conditions and click **OK**.

Figure 7-9 Saving the configuration

Are you sure you want to save the configuration and start migration? $\overset{\times}{}$
1 Migration Checklist ×
The system automatically checks the migration feasibility of the source server, but you must check the following items manually:
Do not restart the Agent during the migration.
Make sure that you select a target server with the same OS as the source server.
After the migration, make sure that you create a mirror for each target server disk. Note
that after the migration, reinstalling or changing the target server OS or modifying its
specifications may fail or make the server unavailable.
Make sure that TCP ports 22, 8899, and 8900 are enabled for Windows target servers,
and ports 22 and 8900 are enabled for Linux target servers.
· Before the migration is complete, do not perform any operations on the target
server, such as changing or reinstalling the OS. Otherwise, the migration may fail and
additional pricing may apply. Learn more



Figure 7-10 Saving the configuration and starting the migration

Are you sure you want to save the configuration a start migration?	ind
i Migration Checklist	×
The system automatically checks the migration feasibility of the source but you must check the following items manually:	server,
Do not restart the Agent during the migration.	
Make sure that you select a target server with the same OS as the source set	erver.
After the migration, make sure that you create a mirror for each target server	r disk. Note
that after the migration, reinstalling or changing the target server OS or modi	ifying its
specifications may fail or make the server unavailable.	
Make sure that TCP ports 22, 8899, and 8900 are enabled for Windows target	et servers,
and ports 22 and 8900 are enabled for Linux target servers.	
Before the migration is complete, do not perform any operations on the ta	irget
server, such as changing or reinstalling the OS. Otherwise, the migration ma	ay fail and
additional pricing may apply.	
Learn more	
	ок

If **S** is displayed in the **Migration Stage** column, the target server has been configured.

----End

8 Starting the Full Replication

Scenarios

The full replication replicates all data from the source server to the target server. The replication speed depends on the outbound bandwidth of the source server or the inbound bandwidth of the target server, whichever is smaller.

Constraints

After a full replication starts, do not restart the source server or Agent, or the migration will fail.

Prerequisites

- A target server has been configured. For details, see **Configuring the Target Server**.
- The migration task is in the **Full Replication** stage and the status is **Ready**.

Procedure

- **Step 1** Log in to the **SMS console**.
- **Step 2** In the navigation pane on the left, choose **Servers**.
- Step 3 Locate the source server to be migrated and click Start in the Migration Stage/ Status or Operation column. In the displayed Start Migration dialog box, click Yes to start a full replication.

You can also select the source server to be migrated and click **Start** above the server list. In the displayed **Start Migration** dialog box, click **Yes**.

Figure 8-1 Starting a full replication

Total tasks: 45 o Abnormal 3	Migration pending 31	Bunning 2 O Comple	Ned 5					
Sat Paus Last	h Targat Sync M	211 ~						
	Add filler							× Q (\$
Source Name/D 😑	Source OSIIP Address @	Terpet O	Task Status (i)	Migration Stage 0	Progress O	Data Volume 🛞 🖯	Migration Speed ()	Operation
•	UBUNTU_18_4_648/T	New	A Mgration pending	Full Replication Ready Start	Total progress 😐 2	 Elapsed Time:	- Mb/s Remaining Time:	Start Paces More -
Total Records: 1 10 🗸 < 🚺								

Figure 8-2 Confirmation

Start Migration		×
	ication or continuous synchronization of server will be automatically locked durin	-
Name	Status	Remarks
	(3 days ago)	Ready for start.
fail. • During the migration, a tempo the disk.	lete, do not perform any operations on the orary EVS disk will be attached to the targ te, the target server will use the same log	get server, and you need to pay for
For EVS disks in DSS storage p You can delete these snapshots	ools, snapshots take up the same amour as needed.	nt of space in the pool as the disks.
		No Yes

NOTE

During the full replication, the target server is locked by default and you are not allowed to perform any operations on it. After the migration is complete, SMS automatically unlocks the target server. If you need to perform operations on the target server during the replication, unlock the target server first by referring to **Unlocking a Target Server**.

- **Step 4** In the server list, click the name of the source server to view the migration progress.
- **Step 5** Wait for the full replication to complete.
 - If you set Continuous Synchronization to No when you configure the migration settings, after the full replication is complete, the migration will go to the Target Launch stage, and the target server will be launched to complete the migration automatically.
 - If you set Continuous Synchronization to Yes when you configure the migration settings, after the full replication is complete, the migration will be in the Continuous sync status, and any new or modified data will be automatically synchronized from the source server to the target server. You will need to manually launch the target server to complete the migration. For details, see Launching the Target Server.

----End

9 Launching the Target Server

If you set **Continuous Synchronization** to **Yes** when configuring the migration settings, after the full replication is complete, you will need to manually launch the target server to complete the migration.

NOTE

If you set **Continuous Synchronization** to **No**, skip this section as the system will automatically launch the target server after the full replication is complete.

Scenarios

You can launch the target server when the migration is in the **Continuous sync** status, and continuous synchronization will be interrupted. After the target server is launched, you can start an incremental synchronization by clicking **Sync** in the operation column.

Before launching the target server, you can clone the target server for service testing, and only launch the target server after tests confirm there are no issues.

NOTE

The cloned server must be in the same AZ as the target server, but can be in a different VPC.

Procedure

- Step 1 Log in to the SMS console.
- Step 2 In the navigation pane on the left, choose Servers.
- **Step 3** Locate the target server you want to launch, and click **Launch Target** in the **Migration Stage/Status** column.

Alternatively, select the server you want to launch, and click **Launch Target** above the server list.

Figure 9-1 Launch Target

Total tasks 14 o Abnormal	0 🔺 Migration pending 9	C Running 1 O Completed	4						
Start Pause Lauro	th Target Sync Mo	re ~							
Q /	udd filler								× 0 🛞
Source NameID 🖯	Source OS/IP Address	Target 🖯	Task Status \ominus	Migration Stage/Status Θ	Progress O	Data Volume 💮 🖯	Migration Spe $\boldsymbol{\boldsymbol{\theta}}$	Operation	
	WINDOWS2008_R2_64BIT	ecs-bd39TT [?] Existing	C Running	Continuous Synchronization Continuous sync Launch Target	Total progress	23.73 GB/23.73 GB Elapsed Time:1 hours 17 r	Mb/s Remaining Time:	Sync Pause M	are ~

Step 4 In the displayed **Launch Target** dialog box, click **Yes**.

Figure 9-2 Confirmation

Launch Target			\times
Are you sure you want to launch target s	ervers for the following 1 servers?		
Name	Status	Remarks	
	Continuous sync (9 minutes ago)	Before launching target servers, s	
	stop writing data to their source servers to the target servers after they are laun		
		No	

Step 5 Check whether **Finished** is displayed in the **Migration Stage/Status** column. If it is, the target server has been launched and the migration is complete.

Figure 9-3 Migration completed

Source Name1D ()	Source OS/IP Address ()	Target 😔	Task Status 😑	Migration Stage/ O	Progress ()	Data Volume 💮 😑	Migration Speed ()	Operation
	WINDOWS2012_R2_64BIT	Existing	o Completed	Finished Finished Gate ECS I?	Total progress 1	13.57 GB/13.57 GB Elapsed Time:	Mb/s Remaining Time:	Sync Pause More ~

----End

10 Synchronizing Incremental Data

Scenarios

After the target server is launched, if there are data changes on your source server, you can synchronize the incremental data from the source server to the target server.

The data changes on the target server will be overwritten by the data synchronized from the source server. For details, see .

NOTE

Only tasks in the **Finished** status can be synchronized.

Procedure

- **Step 1** Log in to the **SMS console**.
- **Step 2** In the navigation pane on the left, choose **Servers**.
- **Step 3** In the server list, locate the source server you want to synchronize and click **Sync** in the **Operation** column.

Total tasks 54 o Abnormal 3	A Migration pending 40	C Running 2 0	Completed 5					
Start Pause Laund	1 Target Sync M	- ere						
Q Source Name	Add filter							× Q ()
Source Name/ID ⊖	Source OSIP Address	Target 🖯	Task Status \varTheta	Migration Stage/ 🖯	Progress 🖯	Data Volume 💮 🖯	Migration Speed 🖯	Operation
•	SUSE12_64BIT_SP5	Existing	Completed	Finished Finished Go to ECS 🖄	Total progress	39.99 GB/40 GB Elapsed Time:	Mb/s Remaining Time:	Sync Pause More ~

Step 4 In the Sync Incremental Data dialog box, carefully read the tips, enable Verify Consistency if needed, and click OK. For details about this option, see How Do I Verify Data Consistency Between the Source and Target Servers?

Synchronize Incremental Data							
Are you sure you war	nt to synchronize in	cremental data of the following 1 set	rvers?				
To ensure smooth syn unlocked after the syn		target server will be automatically lo	cked during the synchronization and				
Name		Status	Remarks				
		• Finished (5 minutes ago)	Ready for synchronization.				
Change to EulerOS Verify Consistency (-						
After the synchron	ization, your target		ation, or the synchronization may fail. Initials as the source server. During the get server.				
	DSS storage pools, mapshots as neede		t of space in the pool as the disks. You				
During Linux incre Learn more	mental data synchr	onization, some source configuration	ns directories to are not synchronized.				
			No Yes				

----End

11 Change History

Released On	What's New
2023-09-30	This issue is the first official release.