

# Scalable File Service

## FAQs

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# 1 Concepts

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## 1.1 What Is SFS?

Scalable File Service (SFS) provides scalable, high-performance file storage. With SFS, you can enjoy shared file access spanning multiple ECSs. SFS supports the Network File System (NFS) protocol. You can seamlessly integrate existing applications and tools with the service.

SFS provides an easy-to-use graphical user interface (GUI). On the GUI, users can create and configure file systems, saving effort in deploying, resizing, and optimizing file systems.

In addition, SFS features high availability. It can be elastically expanded, and it performs better as its capacity grows. The service is suitable for a wide range of scenarios, including enterprise office, high-performance websites, and software development.

# 2 Specifications

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## 2.1 What Is the Maximum Size of a File That Can Be Stored in a File System?

For SFS Turbo file systems, the maximum supported size of a file is 16 TB.

## 2.2 What Access Protocols Are Supported by SFS?

SFS supports the standard network file protocol NFSv3.

## 2.3 How Many File Systems Can Be Created by Each Account?

Each account can create a maximum of 20 SFS Turbo file systems.

## 2.4 How Many Servers Can a File System Be Mounted To?

You can mount an SFS Turbo file system to a maximum of 3,000 servers.

# 3 Restrictions

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## 3.1 Can the Capacity of a File System Be Expanded?

SFS Turbo file systems: support online capacity expansion. During the capacity expansion, mounting a file system may fail and the connection being used for mounting will experience about a 30-second (max. 3 minutes) I/O latency.

## 3.2 Can I Migrate My File System Data to Another Region?

Cross-region migration of file system data is currently not supported. It is recommended that you select an appropriate region when purchasing a file system. Alternatively, you can copy the data to a local device and transfer it to another region.

If you are using SFS Turbo file systems, you can back up your file system data and replicate the backups to another region using the CBR service. Then, create new SFS Turbo file systems from the backups. This way, your file system data has been migrated to another region.

# 4 Networks

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## 4.1 Can a File System Be Accessed Across VPCs?

Yes. An SFS Turbo file system allows two or more VPCs in the same region to interconnect with each other through VPC peering connection. In this case, different VPCs are in the same network, and ECSs in these VPCs can share the same file system. For more information about VPC peering connection, see "VPC Peering Connection" in *Virtual Private Cloud User Guide*.

## 4.2 Does SFS Support Cross-Region Mounting?

SFS Capacity-Oriented file systems do not support cross-region mounting. A file system can be mounted only to ECSs in the same region.

For an SFS Turbo General file system, cross-region access is supported if the file system is mounted using IP address and communication between VPCs is established using Cloud Connect connections.

## 4.3 Does the Security Group of a VPC Affect SFS?

A security group is a collection of access control rules for servers that have the same security protection requirements and are mutually trusted in a VPC. After a security group is created, you can create different access rules for the security group to protect the servers that are added to this security group. The default security group rule allows all outgoing data packets. Servers in a security group can access each other without the need to add rules. The system creates a security group for each cloud account by default. Users can also create custom security groups by themselves.

After an SFS Turbo file system is created, the system automatically enables the security group port required by the NFS protocol. This ensures that the SFS Turbo file system can be accessed by your servers and prevents file system mounting failures. The inbound ports required by the NFS protocol are ports 111, 2049, 2051, 2052, and 20048. If you need to change the enabled ports, choose **Access Control > Security Groups** of the VPC console and locate the target security group.

You are advised to use an independent security group for an SFS Turbo file system to isolate it from service nodes.

## Example Value

- Inbound rule

Direction	Protocol	Port Range	Source IP Address		Description
Inbound	TCP and UDP	111	IP Address	0.0.0.0/0 (configurable)	One port corresponds to one access rule. You need to add information to the ports one by one.

- Outbound rule

Direction	Protocol	Port Range	Source IP Address		Description
Outbound	TCP and UDP	111	IP Address	0.0.0.0/0 (configurable)	One port corresponds to one access rule. You need to add information to the ports one by one.

### NOTE

The bidirectional access rule must be configured for port 111. The inbound rule can be set to the front-end service IP range of SFS. You can obtain it by running the following command: **ping** *File system domain name or IP address* or **dig** *File system domain name or IP address*.

For ports 2049, 2050, 2051, and 2052, only the outbound rule needs to be added, which is the same as the outbound rule of port 111.

For the NFS protocol, add an inbound rule to open the TCP&UDP port 111, TCP ports 2049, 2051, and 2052, and UDP&TCP port 20048. For the SMB protocol, add an inbound rule to open TCP port 445.

For the NFS protocol with UDP port 20048 not opened, the time required for mounting may become longer. In this case, you can use the **-o tcp** option in **mount** to avoid this issue.



# 5 Billing

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## 5.1 How Do I Purchase SFS?

SFS uses pay-per-use billing by default, which means that you are billed by the storage capacity you select during purchase and the duration of use. You can also purchase a yearly or monthly package based on how much space you require and for how long you will use the resources. In case of arrears, you need to renew the service within 15 days, or data in your file systems will be cleared.

### NOTE

The size of a resource package is irrelevant to the compute throughput of the file system.

### Pay-per-use

**Step 1** Register an account.

1. Visit the Huawei Cloud website at [www.huaweicloud.com/eu/](http://www.huaweicloud.com/eu/).
2. In the upper right corner of the page, click **Register**.
3. Complete the registration as instructed.

**Step 2** Top up your account.

1. Log in to the management console.
2. Click **Top Up** and the top-up page is displayed.
3. Top up the account as prompted.
4. After the top-up is complete, close the dialog box and go back to the management console homepage.

**Step 3** Use SFS.

1. Choose **Storage > Scalable File Service** to go to the SFS console.
2. Click **Create File System**. Select pay-per-use billing for an SFS Turbo file system. Use the file system after it is created.

 **NOTE**

- The SFS Turbo file system is billed by the storage capacity you select during purchase and the duration of use.

----End

## 5.2 How Do I Renew the Service?

If the arrears are not paid in time, your account may be frozen and your order may be canceled.

### Procedure

- Step 1** Log in to the management console.
- Step 2** In the upper right corner of the page, choose > **Renewal**.
- Step 3** On the **Renewals** page, click **Renew** in the **Operation** column for the desired resource.
- Step 4** Pay for the order as prompted.

 **NOTE**

- After the payment, the system automatically pays the arrears.
- For more information about orders, unsubscription, coupons, and consumption details, see the [Billing Center User Guide](#).

----End

## 5.3 How Do I Check Whether the Subscriber Is in Arrears?

You can view the outstanding amount on the **Billing Center** page. If your account is in arrears, the system processes resources and fees in SFS according to the retention period rules. For more information, see [Service Suspension and Resource Release](#). To prevent service suspension and resource release, repay arrears or top up in time.

### Procedure

- Step 1** Log in to the management console.
- Step 2** In the upper right corner of the page, click to go to the Billing Center.
- Step 3** On the **Overview** page, you can view the outstanding amount of the current account.
- Step 4** Top up your account to pay arrears if any.

----End

 NOTE

- For more information about orders, unsubscription, coupons, and consumption details, see the [Billing Center User Guide](#).

# 6 Others

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## 6.1 How Do I Access a File System from a Server?

To access your file system, install the NFS client on a Linux server and run the **mount** command to mount the file system. For a Windows server, install the NFS client, modify the NFS transfer protocol, and run the **mount** command to mount the file system. Then, you can share the files and directories of the file system.

## 6.2 How Do I Check Whether a File System on a Linux Server Is Available?

Log in to the server as the **root** user. Run the following command to list all available file systems with the specified domain name or IP address:

```
showmount -e File system domain name or IP address
```

## 6.3 What Resources Does SFS Occupy?

To ensure that file systems can be used properly, the service occupies the following resources:

- For SFS Turbo file systems:
  - When an SFS Turbo file system is created, two private IP addresses and one virtual IP address are created in the subnet entered by the user.
  - When an SFS Turbo file system is created, the inbound rules of ports 111, 445, 2049, 2051, 2052, and 20048 are enabled in the security group entered by the user. The default source IP address is 0.0.0.0/0. You can change the IP address as required.

When data is written to the folders of a file system, the running memory of the server is occupied, but the storage space of the server disk is not occupied. The file system uses independent space.

## 6.4 Can a File System Be Accessed Across Multiple AZs?

1. A single file system can be created only in one AZ, for example, **AZ 1**, but can be mounted to and accessed from any AZ.
2. A file system does not support data redundancy across AZs. If the AZ where a file system resides is unavailable, the file system is unavailable.

## 6.5 How Can I Migrate Data Between SFS and EVS?

Mount a file system and an EVS disk to the same ECS, and then manually replicate data between the file system and EVS disk.

## 6.6 Can I Directly Access SFS from On-premises Devices?

SFS Turbo supports on-premises access via Direct Connect or other methods. After network communication is established, you can access an SFS Turbo file system from your on-premises devices.

## 6.7 How Do I Delete .nfs Files?

### NFS .nfs Files

The .nfs files are temporary files in NFS. If you try to delete a file, and the file is still open, a .nfs file will appear. The .nfs files are used by NFS clients to manage the deletion of open files in the file system. If one process deletes a file while another process still has it open, the client will rename the file to .nfsxxx. If the last open to this file is closed, the client will automatically delete the file. If the client crashes before the file is cleared, the file will be left in the file system.

### Clearing .nfs Files

The .nfs files need to be cleared. You can run the **rm -f** command to delete them. The file system will not be affected by the deletion. If an error is reported when you delete a .nfs file, do as follows:

**Figure 6-1** Deletion error

```
$ rm -f .nfs000000001f0df8c0000XXXX
rm: cannot remove `smkit/SM_DOMAIN/.nfs000000001f0df8c0000XXXX': Device or resource busy
```

Run the **lsdf** command to obtain the ID of the process that has the file open.

**Figure 6-2** Viewing the process ID

```
$ ls -l .nfs0000000001f0df8c0000XXXX
COMMAND  PID    USER  FD  TYPE  DEVICE  SIZE/OFF  NODE NAME
java     25887 <UID> mem  REG  0,22   98117 32545366 .nfs0000000001f09a560000XXXX
```

If the process can be stopped, run the **kill -9 *Process ID*** command to stop the process and then delete the file.

## 6.8 How Can I Improve the Copy and Delete Efficiency with an SFS Turbo File System?

Common Linux commands, such as **cp**, **rm**, and **tar**, are executed sequentially. To take the concurrency advantage of cloud file systems, run commands concurrently to improve efficiency.

## 6.9 How Do Second- and Third-level Directory Permissions of an SFS Turbo File System Be Inherited?

Subdirectories in SFS Turbo file systems cannot inherit permissions of their parent directories.