Speech Interaction Service

FAQs

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Huawei Technologies Co., Ltd.

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https://www.huawei.com/en/psirt/vul-response-process
For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

Contents

1 General Consulting

1.1 What Is Speech Interaction Service?

Speech Interaction Service (SIS) allows you to obtain speech interaction results by calling application programming interfaces (APIs) in real time. For example, you can use Automatic Speech Recognition (ASR) to convert speech recordings in Mandarin or with certain dialects into editable text, and use Text To Speech (TTS) to convert text into lifelike voices. It is applicable to scenarios such as voice customer service inspection, conference records, voice messages, audio books, and telephone follow-ups.

1.2 What Languages Are Supported?

- Chinese Mandarin and dialects (Sichuanese, Cantonese, and Shanghainese) are supported in Short Sentence Recognition .

1.3 Can Files in the AAC Format Be Converted into Text?

Short Sentence Recognition can convert speech to text. Short Sentence Recognition supports the AAC format.

2 Billing

2.1 Is SIS Available for Commercial Use or Free of Charge?

Currently, SIS is not put into commercial use in the Singapore region. For details about how to enable SIS and obtain pricing details, **Contact Sales**.

3 API

3.1 Why Is the Recognition Result Very Poor?

Symptom

The recognition result obtained after calling the ASR API is of great difference from the actual result, or the server reports an audio format error.

Solution

1. Check whether the audio sampling rate meets the requirements.

   You can use tools such as the toolsoft Audio player to listen to a raw audio file and adjust the sampling rate. When the audio file can be played properly, the sampling rate can be used.

2. Check whether the sampling rate part in the value of parameter **property** is the same as the actual sampling rate. For example, in **chinese_8k_common**, *8k* is the sampling rate.

3.2 How Do I Call the APIs of SIS?

You can initiate a request based on constructed request messages using any of the following three methods:

- cURL

  cURL is a command-line tool used to perform URL operations and transfer files. cURL functions as an HTTP client to send HTTP requests to the server and receive response messages. It is applicable to API debugging. For more information about cURL, visit **https://curl.haxx.se/**.

- Code

  You can call APIs using code to assemble, send, and process request messages.

- REST client

  Both Mozilla Firefox and Google Chrome provide a graphical browser plug-in, that is, REST client, to send and process requests. To download Postman, see **https://www.getpostman.com/**.

3.3 Why Does the Returned Status is Normal But the Recognition Result is Empty?

This problem is generally caused by format mismatch. Perform the following operations to locate the fault:

1. Ensure that the audio format is the same as that in the request format, and the audio sampling rate is the same as that specified in the **property** parameter.

2. Ensure that the audio bit width is 16 bits. Currently, only 16-bit audio is supported. If the audio bit width is less than 16 bits, the audio cannot be recognized.

3.4 What Are the Username, Domain Name, and Project Name in the Token Message Body?

username indicates the name of the user, and *domainname* indicates the name of the account to which the user belongs. If the token is obtained by an account, *username* and *domainname* are the same. If the token is obtained by an IAM user (multiple IAM users can be created under an account), *username* is the name of the IAM user and is different from *domainname*.

Project Name indicates the project name, for example, **ap-southeast-3**. .
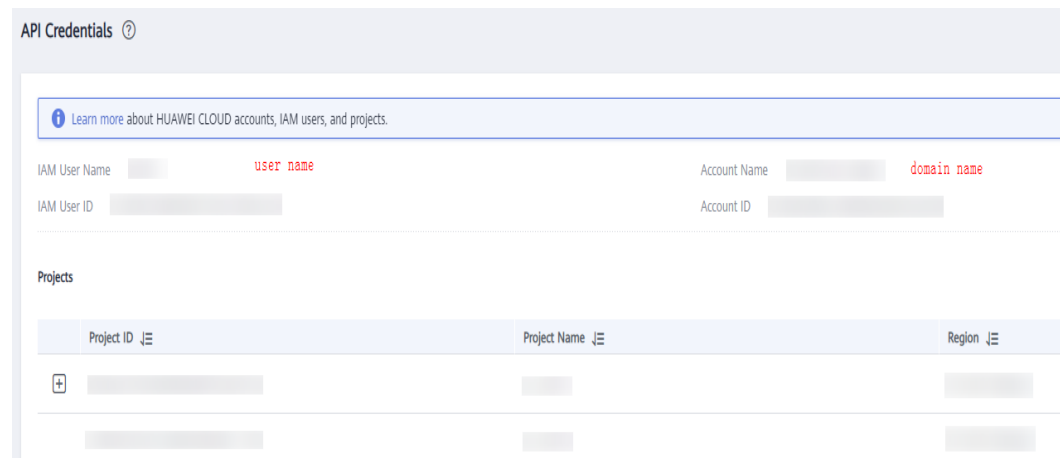
3.5 Can I Call SIS APIs Concurrently?

SIS APIs can be called concurrently. For details, consult the business cooperation personnel.

3.6 What Do I Do If the Error Message "auth failed" Is Displayed During SIS API Calling?

Symptom

There are multiple causes for authentication failures. Generally, it is because that an incorrect token is used to access the server.

Solution

1. Check whether the user account is normal.

   Check whether the user account is recharged or frozen. You can log in to your account and check whether your account balance is sufficient (or query the preceding information on the user console).

2. Check whether the obtained token is normal.

   – Ensure that the token is obtained within 24 hours.

   – Ensure that the parameter nesting for obtaining the token is correct.

     The following sample code shows the correct nesting. Incorrect nesting can also be used to obtain the token but the token cannot access the service.

3. Use AK/SK for accessing and check whether the AK and SK are correct.

4. Check whether the **project_id** is correctly entered.

   📖 **NOTE**

   If the fault fails to be located and rectified, contact customer service.

```
auth_data = {
 "auth": {
   "identity": {
     "password": {
       "user": {
         "name": user_name,
         "password": password,
         "domain": {
           "name": domain_name
         }
       }
     },
     "methods": ["password"]
   },
   "scope": {
     "project": {
       "name": region
     }
   }
 }
}
```

3.7 What Do I Do If SIS API Calling Times Out?

Symptom

Timeout is usually caused by network disconnections. You need to analyze the network environment and code.

Solution

1. Check whether the network is normal.

   Ensure that the network is connected to the Internet so that you can access the Huawei Cloud official website and obtain the token. If a proxy is used, ensure that the proxy is available.

2. Check whether the URL has errors,

   for example, writing errors, HTTP method errors (GET and POST confusion), and other errors

3.8 What Do I Do If the Error Message "The silence time is too long, and the audio will not be recognized" Is Displayed?

Symptom

A recognition error occurs and the message "The silence time is too long, and the audio will not be recognized" is displayed.

Possible Causes

The initial silence period of Real-Time ASR is too long.

Solution

Method 1: Set **vad_head** to a larger value. For details, see the request parameters in "Using Real-Time ASR".

Method 2: Cut off the initial silent part of the recognition file.

3.9 How Do I Obtain a Token?

Construct a token request as follows:

You can log in to the console and choose **My Credentials** to obtain the values of **username**, **domainname**, and **project name**. *password* indicates the user password.

Figure 3-1 My Credentials

If your Huawei Cloud account has been upgraded to a Huawei Cloud account, you cannot obtain a token. You are advised to create an IAM user and obtain the user token.

```
POST https://iam.ap-southeast-3.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "*******",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "region"
            }
        }
    }
}
```

As shown in the following figure, **x-subject-token** in the response header is the desired user token. This token can then be used to authenticate the calling of SIS APIs.

After obtaining the token, add the **X-Auth-Token** header field to requests to specify the token for calling other APIs. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** to a request as follows:

```
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

4 SDK

4.1 Does the Java SDK Support Maven Project Import?

Maven project import is supported. For details about the import mode, see
Obtaining SDKs.

4.2 Can the Java SDK Be Used on Android?

Due to a compatibility issue, the Java SDK cannot be used on Android.

4.3 What Languages Do SIS SDKs Support?

Currently, the union SDK (supporting only HTTPS APIs) supports Java and Python.
More languages will be supported in the future.

5 Error Code

5.1 SIS.0304 Error

Symptom

If the server does not receive any audio from the client for 20s, this error is reported.

Solution

1. Check the code to view whether there is too much idle time after an audio segment is sent.

2. Check whether an ending request is sent and the client is closed. If no data is sent and the connection is not disconnected after 20s, the error is reported. After using the service, disconnect the client from the server.

5.2 SIS.0032 Error

Symptom

When the Short Sentence Recognition API is called, the error code **SIS.0032** is returned, and the error message "audio_format' is invalid" is displayed.

Solution

Ensure that the value of **audio_format** is valid and is same as the format of the audio to be identified.

For details about the audio formats supported by Short Sentence Recognition, see **Table 5-1**.

Table 5-1 Value range of **audio_format**

Value	Description
pcm16k16bit	16 kHz, 16-bit mono-channel audio recording data
pcm8k16bit	8 kHz, 16-bit mono-channel audio recording data
wav	Format with the WAV encapsulation header. The format is automatically determined by the encapsulation header. Currently, only the 8 kHz/16 kHz sampling rate, mono channel, and pcm encoding format are supported.

5.3 APIG.0101 Error

The error message "The API does not exist or has not been published in the environment." is displayed.

- Check whether the API URL is correct. For example, check whether the project ID is included in the URL.
- Check whether endpoint in the URI is correct. For example, check whether the endpoint of other services is entered.

  https://ocr.ap-southeast-3.myhuaweicloud.com/v1/{project_id}/asr/short-audio

- Check whether the HTTP request method (such as POST and GET) is correct.
- For details about the URI, see the corresponding API page.

5.4 APIG.0201 Error

If the error message "Backend timeout." and error code "APIG.0201" are displayed when you call an API, the request timed out.

Perform the following steps to rectify the fault:

Use a tool, such as Postman, to call the service and check whether the call is successful. If the call is successful, the service API is normal. Perform the following steps to proceed:

1. Check whether API call requests are excessively frequent. If there are too many concurrent requests, check the return value in the code and resend the requests later (for example, 2 to 5 seconds later). You can also check whether the result of the previous request is returned at the backend. Do not send a request before a result is returned for the previous request.
2. Check whether the audio file is too large or the network delay is too high. If the audio file is too large, you can compress the audio in MP3 format. If the network delay is too high, improve the network transmission speed.

To avoid this problem, you can call SIS using the SDK provided by the service. For details about how to obtain the SDK, see **Obtaining SDKs**.

If the above solutions cannot rectify the fault, **contact us**.

5.5 APIG.0301 Error

There are two possibilities to check:

- If error message "Incorrect IAM authentication information: decrypt token fail" and error code **APIG.0301** are displayed, the token fails to decrypt.

  Solution: (1) Check whether the token has expired. (2) Check whether the method and request body for obtaining the token are correct and whether the token is correct and complete. (3) Check whether the environment for obtaining the token is consistent with the environment where the token is called. (4) Check whether the account is in arrears or frozen.

- If error message "Incorrect IAM authentication information: verify aksk signature fail" and error code **APIG.0301** are displayed, AK/SK fails to authenticate.

  Solution: (1) Check whether the AK/SK pair is correct. For example, the SK corresponding to the AK is incorrect; an extra space is entered in the AK/SK pair. (2) AK/SK-based authentication errors occur frequently. If an AK/SK pair fails to be authenticated for more than five consecutive times, the AK/SK pair is locked for 5 minutes (the AK/SK-based authentication is considered as an abnormal authentication request within 5 minutes). 5 minutes later, the AK/SK pair is unlocked and re-authenticated. (3) Check whether the account is in arrears or frozen.

5.6 Project ID Does Not Match the Token

The "the parameters of requesting token are wrong or project_id doesn't match the token error" is reported when obtaining a token.

Check whether the region information in the request URL matches the project name in the request body for obtaining a token.

```
POST https://iam.ap-southeast-3.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "projectname"
            }
        }
    }
}
```

5.7 calc ak sk signature fail:signature expired

When an API is called, the "Incorrect IAM authentication information: calc ak sk signature fail:signature expired" error is reported. It indicates that the AK or SK has expired.

Check whether you are using a temporary AK/SK or a permanent AK/SK. For details about how to obtain a temporary key, see **Obtaining a Temporary Access Key and Security Token Through a Token**. For details about how to obtain a permanent key, see **My Credential**.

If this error is reported for a permanent AK/SK, check whether the server time is consistent with the network time. After the time is synchronized, the alarm is cleared.

6 Deployment

6.1 Can SIS Be Deployed on Private Platforms or on Premises?

No, SIS cannot be deployed on private platforms or on premises.

7 Regions and AZs

## 7.1 What Are Regions and AZs?

Concepts

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

- Regions are divided from the dimensions of geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified as universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides services of the same type only or for specific tenants.

- An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

Figure 7-1 shows the relationship between the regions and AZs.

Figure 7-1 Regions and AZs
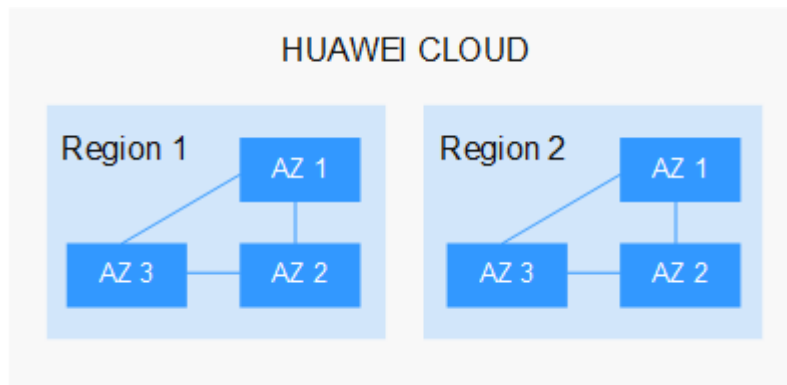
Huawei Cloud provides services in many regions around the world. You can select a region and AZ as needed.

How to Select a Region

When selecting a region, consider the following factors:

- Location

  You are advised to select a region close to you or your target users. This reduces the network latency and improves the access speed. Regions within the Chinese mainland provide the same infrastructure, BGP network quality, as well as resource operations and configurations. Therefore, if your target users are in the Chinese mainland, you do not need to consider the network latency differences when selecting a region.

  – If you or your target users are in Asia Pacific excepting the Chinese mainland, select the **CN-Hong Kong**, **AP-Bangkok**, or **AP-Singapore** region.

  – If you or your target users are in Africa, select the **AF-Johannesburg** region.

  – If you or your target users are in Europe, select the **EU-Paris** region.

- Relationship between cloud services

  When using multiple cloud services, pay attention to the following restrictions:

  – ECSs, RDS instances, and OBS buckets in different regions cannot communicate with each other through an internal network.

  – ECSs in different regions cannot be bound to the same load balancer.

- Resource price

  Resource prices may vary in different regions.

How Do I Select an AZ?

When determining whether to deploy resources in the same AZ, consider your applications' requirements on disaster recovery (DR) and network latency.

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

Regions and Endpoints

Before using an API to call resources, specify its region and endpoint. For more details about regions and endpoints, see SIS **Regions and Endpoints**.

8 Permissions

8.1 What Permissions Are Required to Use SIS?

Operations on SIS do not require additional permissions,

8.2 How Do I Create a Subaccount Using the Main Account?

SIS does not support IAM fine-grained authorization. The IAM account has the same permissions as the main account.

You can create IAM users for employees or applications. For details, see **Creating an IAM User**.