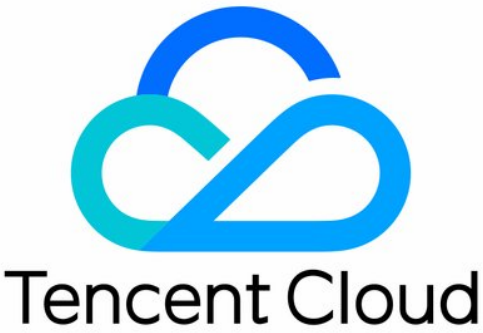
Tencent Real-Time Communication

サーバー側 API

製品ドキュメント



カタログ：

サーバー側 API
Data Monitoring APIs
DescribeTRTCRealTimeScaleData

最終更新日：：2024-03-11 11:06:33

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

Query TRTC Monitoring Dashboard - Real-Time Monitoring Scale Metrics (the following metrics will be returned) -userCount (Online users) -roomCount (Online rooms) Note: 1. To call the interface, you need to activate the monitoring dashboard Standard Edition and Premium Edition, the monitoring dashboard Free Edition does not support calling. For monitoring dashboard version features and billing overview, please visit: https://trtc.io/document/54481. 2. The query time range depends on the function version of the monitoring dashboard. The premium edition can query the last 1 hours

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTRTCRealTimeScaleData.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	No	String	Common Params. This parameter is not required for this API.

SdkAppId	Yes	String	User SDKAppId (e.g., 1400xxxxxx)
StartTime	Yes	Integer	Start time, unix timestamp, Unit: seconds (Query time range depends on the function version of the monitoring dashboard, premium edition can query up to 1 hours)
EndTime	Yes	Integer	End time, unix timestamp, Unit: seconds
RoomId	No	String	Room ID

3. Output Parameters

Parameter Name	Type	Description
Data	TRTCDataResult	TRTC Real- Time Monitoring output parameter
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 DescribeTRTCRealTimeScaleData

Query online TRTC rooms and users

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeTRTCRealTimeScaleData
<Public request parameters>

{
"StartTime": 1695711343,
"EndTime": 1695711643,
"SdkAppId": "1400xxxxxx"
}
```

Output Example


```
{
"Response": {
"Data": {
"StatementID": 0,
"Series": [
{
"Columns": [
"time",
"userCount",
"roomCount"
],
"Values": [
{
"RowValue": [
1695711350,
22,
18
]
},
{
"RowValue": [
1695711360,
22,
18
]
},
{
"RowValue": [
1695711370,
22,
18
]
},
{
"RowValue": [
1695711380,
22,
18
]
},
{
"RowValue": [
1695711390,
23,
18
```

```
]
},
{
"RowValue": [
1695711400,
21,
18
]
},
{
"RowValue": [
1695711410,
21,
18
]
},
{
"RowValue": [
1695711420,
21,
18
]
},
{
"RowValue": [
1695711430,
21,
18
]
},
{
"RowValue": [
1695711440,
21,
18
]
},
{
"RowValue": [
1695711450,
21,
18
]
},
{
"RowValue": [
1695711460,
```

```
21,
18
]
},
{
"RowValue": [
1695711470,
21,
18
]
},
{
"RowValue": [
1695711480,
21,
18
]
},
{
"RowValue": [
1695711490,
21,
18
]
},
{
"RowValue": [
1695711500,
21,
18
]
},
{
"RowValue": [
1695711510,
21,
18
]
},
{
"RowValue": [
1695711520,
21,
18
]
},
{
```

```
"RowValue": [
1695711530,
21,
18
]
},
{
"RowValue": [
1695711540,
21,
18
]
},
{
"RowValue": [
1695711550,
22,
19
]
},
{
"RowValue": [
1695711560,
22,
19
]
},
{
"RowValue": [
1695711570,
22,
19
]
},
{
"RowValue": [
1695711580,
22,
19
]
},
{
"RowValue": [
1695711590,
22,
19
]
```

```
},
{
"RowValue": [
1695711600,
22,
19
]
},
{
"RowValue": [
1695711610,
22,
19
]
},
{
"RowValue": [
1695711620,
22,
19
]
},
{
"RowValue": [
1695711630,
24,
20
]
},
{
"RowValue": [
1695711640,
22,
19
]
}
]
}
],
"Total": 1
},
"RequestId": "7gb56tcisiuy9el619p3jjkccop9qpv8"
}
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
UnsupportedOperation	Unsupported operation.

DescribeTRTCRealTimeQualityData

最終更新日：：2024-03-11 11:06:33

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

Query TRTC Monitoring Dashboard - Real-Time Monitoring Quality Metrics (return the following metrics)
-Video stutter rate
-Audio stutter rate
Note:

1. To call the API, you need to activate the Monitoring Dashboard Standard Edition and Premium Edition. The Monitoring Dashboard Free Edition does not support calling. For monitoring dashboard version features and billing overview, please visit: https://trtc.io/document/54481.
2. The query time range depends on the monitoring dashboard function version. The premium edition can query up to 1 hours

A maximum of 20 requests can be initiated per second for this API.

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Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTRTCRealTimeQualityData.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	No	String	Common Params. This parameter is not required for this API.

SdkAppId	Yes	String	User SDKAppId (e.g., 1400xxxxxx)
StartTime	Yes	Integer	Start time, unix timestamp, Unit: seconds (Query time range depends on the monitoring dashboard function version, standard edition can query the last 3 hours, premium edition can query the last 12 hours)
EndTime	Yes	Integer	End time, unix timestamp, Unit: seconds
RoomId	No	String	Room ID

3. Output Parameters

Parameter Name	Type	Description
Data	TRTCDataResult	TRTC Real- Time Monitoring output parameters
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 DescribeTRTCRealTimeQualityData

Query TRTC real-time monitoring quality data

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeTRTCRealTimeQualityData
<Public request parameters>

{
"StartTime": 1695711343,
"EndTime": 1695711643,
"SdkAppId": "1400xxxxxx"
}
```

Output Example

```
{
"Response": {
"Data": {
"StatementID": 0,
"Series": [
{
"Columns": [
"time",
"videoFreezeRate",
"audioFreezeRate"
],
"Values": [
{
"RowValue": [
1695711350,
0,
0
]
},
{
"RowValue": [
1695711360,
0,
0
]
},
{
"RowValue": [
1695711370,
0,
0
]
},
{
"RowValue": [
1695711380,
0,
0
]
},
{
"RowValue": [
1695711390,
0,
0
]
```

```
},
{
"RowValue": [
1695711400,
0,
0
]
},
{
"RowValue": [
1695711410,
0,
0
]
},
{
"RowValue": [
1695711420,
0,
0
]
},
{
"RowValue": [
1695711430,
0,
0
]
},
{
"RowValue": [
1695711440,
0,
0
]
},
{
"RowValue": [
1695711450,
0,
0
]
},
{
"RowValue": [
1695711460,
0,
```

```
0
]
},
{
"RowValue": [
1695711470,
0,
0
]
},
{
"RowValue": [
1695711480,
0,
0
]
},
{
"RowValue": [
1695711490,
0,
4
]
},
{
"RowValue": [
1695711500,
0,
0
]
},
{
"RowValue": [
1695711510,
0,
0
]
},
{
"RowValue": [
1695711520,
0,
0
]
},
{
"RowValue": [
```

```
1695711530,
0,
0
]
},
{
"RowValue": [
1695711540,
0,
0
]
},
{
"RowValue": [
1695711550,
0,
0
]
},
{
"RowValue": [
1695711560,
0,
0
]
},
{
"RowValue": [
1695711570,
0,
0
]
},
{
"RowValue": [
1695711580,
0,
0
]
},
{
"RowValue": [
1695711590,
0,
0
]
},
```

```
{
"RowValue": [
1695711600,
0,
0
]
},
{
"RowValue": [
1695711610,
0,
0
]
},
{
"RowValue": [
1695711620,
0,
0
]
},
{
"RowValue": [
1695711630,
0,
0
]
},
{
"RowValue": [
1695711640,
0,
0
]
}
]
}
],
"Total": 1
},
"RequestId": "75fegcba14mffq3wl2zz578ml3e-i1a3"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeTRTCMarketScaleData

最終更新日：：2024-03-11 11:06:33

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

Query TRTC Monitoring Dashboard - Data Dashboard Scale Metrics (will return userCount, roomCount, peakCurrentUsers, peakCurrentChannels)

- userCount: number of users in the call,
- roomCount: number of rooms in the call, counted as one call channel from the time a user joins the channel to the time all users leave the channel.
- peakCurrentChannels: peak number of channels online at the same time.
- peakCurrentUsers: peak number of users online at the same time.
  Note:

1. To call the interface, you need to activate the monitoring dashboard Standard Edition and Premium Edition, the monitoring dashboard Free Edition does not support calling, for monitoring dashboard version features and billing overview: https://trtc.io/document/54481.
2. The query time range depends on the monitoring dashboard function version, premium edition can query up to 60 days.

A maximum of 20 requests can be initiated per second for this API.

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Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description

Action	Yes	String	Common Params. The value used for this API: DescribeTRTCMarketScaleData.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	No	String	Common Params. This parameter is not required for this API.
SdkAppId	Yes	String	User SDKAppId
StartTime	Yes	Date	Query start time, format is YYYY-MM-DD. (The query time range depends on the monitoring dashboard function version, the premium edition can query up to 60 days)
EndTime	Yes	Date	Query end time, format is YYYY-MM-DD.
Period	Yes	String	The granularity of the returned data, which can be set to the following values: d: by day. This returns data for the entire UTC day of the query time range. h: by hour. This returns data for the entire UTC hour of the query time range.

3. Output Parameters

Parameter Name	Type	Description
Data	TRTCDataResult	TRTC Data Dashboard output parameters
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 DescribeTRTCMarketScaleData

Query TRTC data dashboard scale data

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
```

```
Content-Type: application/json
X-TC-Action: DescribeTRTCMarketScaleData
<Public request parameters>

{
"SdkAppId": "1400xxxxxx",
"StartTime": "2023-09-20",
"EndTime": "2023-09-23",
"Period": "d"
}
```

Output Example

```
{
"Response": {
"Data": {
"StatementID": 0,
"Series": [
{
"Columns": [
"time",
"peakCurrentUsers",
"peakCurrentChannels",
"userCount",
"roomCount"
],
"Values": [
{
"RowValue": [
1695139200,
55,
37,
784,
572
]
},
{
"RowValue": [
1695225600,
62,
46,
848,
614
]
},
{
```

```
"RowValue": [
1695312000,
47,
45,
950,
695
]
},
{
"RowValue": [
1695398400,
36,
35,
378,
313
]
}
]
}
],
"Total": 1
},
"RequestId": "kp38ibciayx-elqqjdfrf7umkvpbvowt"
}
}
```


5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeTRTCMarketQualityData

最終更新日：：2024-03-11 11:06:33

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

Query TRTC Monitoring Dashboard - Data Dashboard Quality Metrics (including the following metrics)
joinSuccessRate: Join channel success rate.
joinSuccessIn5sRate: Join channel success rate within 5s.
audioFreezeRate: Audio stutter rate.
videoFreezeRate: Video stutter rate.
networkDelay: Lag rate.
Note:

1. To call the API, you need to activate the monitoring dashboard Standard Edition and Premium Edition, the monitoring dashboard Free Edition does not support calling. Monitoring dashboard version features and billing overview: https://trtc.io/document/54481.
2. The query time range depends on the monitoring dashboard function version, premium edition can query the last 30 days.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTRTCMarketQualityData.

Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	No	String	Common Params. This parameter is not required for this API.
SdkAppId	Yes	String	User SDKAppId (e.g., 1400xxxxxx)
StartTime	Yes	Date	Query start time, format is YYYY-MM-DD. (The query time range depends on the monitoring dashboard function version, the premium edition can query up to 30 days)
EndTime	Yes	Date	Query end time, format is YYYY-MM-DD.
Period	Yes	String	The granularity of the returned data, which can be set to the following values: d: by day. This returns data for the entire UTC day of the query time range. h: by hour. This returns data for the entire UTC hour of the query time range.

3. Output Parameters

Parameter Name	Type	Description
Data	TRTCDataResult	TRTC Data Dashboard output parameters
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 DescribeTRTCMarketQualityData

Query TRTC data dashboard quality related data

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeTRTCMarketQualityData
<Public request parameters>
```

```
{
"SdkAppId": "1400xxxxxx",
"StartTime": "2020-09-22",
"EndTime": "2020-09-22",
"Period": "d"
}
```

Output Example

```
{
"Response": {
"Data": {
"StatementID": 0,
"Series": [
{
"Columns": [
"time",
"videoFreezeRate",
"audioFreezeRate",
"networkDelay",
"joinSuccessRate",
"joinSuccessRate"
],
"Values": [
{
"RowValue": [
1664553600,
2,
0,
0,
97,
97
]
},
{
"RowValue": [
1664640000,
3,
0,
0,
98,
98
]
}
]
```

```
}
],
"Total": 1
},
"RequestId": "4mry45x5sslfsee3vfl5n99oz4u9u-8w"
}
}
```


5. Developer Resources

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

History

最終更新日：：2024-03-11 11:06:25

Release 26

Release time: 2024-01-25 19:47:42

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeTRTCMarketQualityData
- DescribeTRTCMarketScaleData
- DescribeTRTCRealTimeQualityData
- DescribeTRTCRealTimeScaleData

New data structures:

- RowValues
- SeriesInfos
- TRTCDataResult

Release 25

Release time: 2023-11-24 16:25:45

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeStreamIngest
- StartStreamIngest
- StopStreamIngest

New data structures:

- AudioEncodeParams

- VideoEncodeParams

Release 24

Release time: 2023-07-28 15:26:39

Release updates:

Improvement to existing documentation.

Modified data structures:

- McuLayout
  - New members:BackgroundRenderMode
- McuVideoParams
  - New members:BackgroundRenderMode

Release 23

Release time: 2023-05-12 11:26:05

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeCallDetailInfo
- DescribeRoomInfo
- DescribeScaleInfo
- DescribeUnusualEvent
- DescribeUserEvent
- DescribeUserInfo

Modified APIs:

- DescribeTrtcRoomUsage
  - New output parameters:Data

New data structures:

- AbnormalEvent

- AbnormalExperience
- EventList
- EventMessage
- QualityData
- RoomState
- ScaleInfomation
- TimeValue
- UserInformation
- WaterMarkChar
- WaterMarkTimestamp

Modified data structures:

- McuLayoutParams
  - New members:RenderMode
- WaterMark
  - New members:WaterMarkChar, WaterMarkTimestamp

Release 22

Release time: 2023-03-31 11:13:18

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeTrtcRoomUsage

Release 21

Release time: 2023-03-17 11:38:29

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeMixTranscodingUsage
- DescribeRecordingUsage

- DescribeRelayUsage
- DescribeTrtcUsage

New data structures:

- McuWaterMarkText
- TrtcUsage

Modified data structures:

- McuWaterMarkParams
  - New members:WaterMarkText

Release 20

Release time: 2023-03-14 16:04:41

Release updates:

Improvement to existing documentation.

Modified data structures:

- McuLayoutVolume
  - New members:Interval, FollowIdr
- McuPassThrough
  - New members:Interval, FollowIdr

Release 19

Release time: 2023-03-02 17:29:46

Release updates:

Improvement to existing documentation.

Modified data structures:

- RecordParams
  - New members:MediaId

Release 18

Release time: 2022-12-16 15:45:24

Release updates:

Improvement to existing documentation.

Modified data structures:

- MixLayoutParams
  - New members:RenderMode, MaxResolutionUserAlign
- RecordParams
  - New members:MaxMediaFileDuration
- TencentVod
  - New members:UserDefineRecordId

Release 17

Release time: 2022-11-10 16:45:18

Release updates:

Improvement to existing documentation.

New APIs:

- SetUserBlocked
- SetUserBlockedByStrRoomId

Release 16

Release time: 2022-11-03 14:29:50

Release updates:

Improvement to existing documentation.

Modified APIs:

- StartPublishCdnStream
  - New input parameters:FeedBackRoomParams
- UpdatePublishCdnStream

- New input parameters:FeedBackRoomParams

New data structures:

- McuFeedBackRoomParams

Modified data structures:

- McuAudioParams
  - New members:UnSubscribeAudioList

Release 15

Release time: 2022-09-20 10:16:48

Release updates:

Improvement to existing documentation.

New data structures:

- McuCustomCrop

Modified data structures:

- McuLayout
  - New members:CustomCrop
- RecordParams
  - New members:AvMerge
- TencentVod
  - New members:MediaType

Release 14

Release time: 2022-08-19 10:23:41

Release updates:

Improvement to existing documentation.

Modified APIs:

- StartPublishCdnStream

  - New input parameters:SeiParams
- UpdatePublishCdnStream
  - New input parameters:SeiParams

New data structures:

- McuLayoutVolume
- McuPassThrough
- McuSeiParams

Modified data structures:

- McuWaterMarkParams
  - New members:WaterMarkType

Release 13

Release time: 2022-07-04 11:00:48

Release updates:

Improvement to existing documentation.

New APIs:

- StartPublishCdnStream
- StopPublishCdnStream
- UpdatePublishCdnStream

New data structures:

- AgentParams
- AudioEncode
- MaxVideoUser
- McuAudioParams
- McuLayout
- McuLayoutParams
- McuPublishCdnParam
- McuUserInfoParams
- McuVideoParams
- McuWaterMarkImage

- McuWaterMarkParams
- MixUserInfo
- SingleSubscribeParams
- UserMediaStream
- VideoEncode

Release 12

Release time: 2022-05-11 15:16:52

Release updates:

Improvement to existing documentation.

New APIs:

- CreateCloudRecording
- DeleteCloudRecording
- DescribeCloudRecording
- ModifyCloudRecording

Deleted APIs:

- CreatePicture
- CreateTroubleInfo
- DeletePicture
- DescribeAbnormalEvent
- DescribeCallDetail
- DescribeDetailEvent
- DescribeHistoryScale
- DescribePicture
- DescribeRecordStatistic
- DescribeRoomInformation
- DescribeTrtcInteractiveTime
- DescribeTrtcMcuTranscodeTime
- DescribeUserInformation
- ModifyPicture
- StartMCUMixTranscode
- StartMCUMixTranscodeByStrRoomId
- StopMCUMixTranscode

- StopMCUMixTranscodeByStrRoomId

New data structures:

- AudioParams
- CloudStorage
- CloudVod
- MixLayout
- MixLayoutParams
- MixTranscodeParams
- RecordParams
- StorageFile
- StorageParams
- SubscribeStreamUserIds
- TencentVod
- VideoParams
- WaterMark
- WaterMarkImage

Deleted data structures:

- AbnormalEvent
- AbnormalExperience
- EncodeParams
- EventList
- EventMessage
- LayoutParams
- OneSdkAppIdTranscodeTimeUsagesInfo
- OneSdkAppIdUsagesInfo
- OutputParams
- PictureInfo
- PresetLayoutConfig
- PublishCdnParams
- QualityData
- RecordUsage
- RoomState
- ScaleInfomation
- SdkAppIdRecordUsage
- SdkAppIdTrtcMcuTranscodeTimeUsage

- SdkAppIdTrtcUsage
- SmallVideoLayoutParams
- TimeValue
- UserInformation
- WaterMarkParams

Release 11

Release time: 2021-11-09 10:13:12

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeRecordStatistic
- DescribeTrtcInteractiveTime
- DescribeTrtcMcuTranscodeTime

Deleted APIs:

- DescribeRealtimeNetwork
- DescribeRealtimeQuality
- DescribeRealtimeScale

New data structures:

- OneSdkAppIdTranscodeTimeUsagesInfo
- OneSdkAppIdUsagesInfo
- RecordUsage
- SdkAppIdRecordUsage
- SdkAppIdTrtcMcuTranscodeTimeUsage
- SdkAppIdTrtcUsage

Deleted data structures:

- RealtimeData

Release 10

Release time: 2021-10-27 16:00:34

Release updates:

Improvement to existing documentation.

Modified data structures:

- EncodeParams
  - New members:BackgroundImageUrl
- WaterMarkParams
  - New members:WaterMarkUrl

Release 9

Release time: 2021-06-15 16:57:07

Release updates:

Improvement to existing documentation.

New data structures:

- WaterMarkParams

Modified data structures:

- LayoutParams
  - New members:WaterMarkParams

Release 8

Release time: 2021-04-28 11:08:14

Release updates:

Improvement to existing documentation.

New APIs:

- CreatePicture
- DeletePicture
- DescribePicture
- ModifyPicture

New data structures:

- PictureInfo

Release 7

Release time: 2021-04-07 19:54:14

Release updates:

Improvement to existing documentation.

Modified data structures:

- EncodeParams
  - New members:AudioCodec

Release 6

Release time: 2021-02-20 17:51:34

Release updates:

Improvement to existing documentation.

New APIs:

- StartMCUMixTranscodeByStrRoomId
- StopMCUMixTranscodeByStrRoomId

Modified data structures:

- LayoutParams
  - New members:PureAudioHoldPlaceMode

Release 5

Release time: 2021-02-19 16:22:07

Release updates:

Improvement to existing documentation.

New APIs:

- DismissRoomByStrRoomId
- RemoveUserByStrRoomId

Release 4

Release time: 2021-01-21 17:40:36

Release updates:

Improvement to existing documentation.

Modified APIs:

- StartMCUMixTranscode
  - New input parameters:PublishCdnParams

New data structures:

- PublishCdnParams

Modified data structures:

- LayoutParams
  - New members:PlaceHolderMode
- PresetLayoutConfig
  - New members:MixInputType, PlaceImageId

Release 3

Release time: 2020-12-21 17:07:47

Release updates:

Improvement to existing documentation.

New APIs:

- DescribeUserInformation

New data structures:

- PresetLayoutConfig

Modified data structures:

- LayoutParams
  - New members:PresetLayoutConfig

Release 2

Release time: 2020-09-25 11:41:53

Release updates:

Improvement to existing documentation.

Modified APIs:

- DescribeCallDetail
  - New input parameters:PageNumber, PageSize

Modified data structures:

- LayoutParams
  - New members:MixVideoUids

Existing Release

Release time: 2020-07-30 20:35:23

Existing APIs/data structures are as follows:

Improvement to existing documentation.

Existing APIs:

- CreateTroubleInfo
- DescribeAbnormalEvent
- DescribeCallDetail
- DescribeDetailEvent
- DescribeHistoryScale
- DescribeRealtimeNetwork
- DescribeRealtimeQuality
- DescribeRealtimeScale
- DescribeRoomInformation

- DismissRoom
- RemoveUser
- StartMCUMixTranscode
- StopMCUMixTranscode

Existing data structures:

- AbnormalEvent
- AbnormalExperience
- EncodeParams
- EventList
- EventMessage
- LayoutParams
- OutputParams
- QualityData
- RealtimeData
- RoomState
- ScaleInfomation
- SmallVideoLayoutParams
- TimeValue
- UserInformation

Introduction

最終更新日：：2024-03-11 11:06:21

Tencent Real-Time Communication (TRTC) integrates Tencent's 21 years of deep accumulation in network and audio/video technology, providing scenario-based solutions for multiple people audio/video call and low-latency interactive live streaming through Tencent Cloud Services. It is committed to helping developers quickly build low-cost, low-latency, and high-quality audio/video interactive solutions.

API Category

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Room Management APIs

API Name	Feature	Frequency Limit (maximum requests per second)
RemoveUser	Removes a user	20
SetUserBlocked	Disables/Enables the audio and video of a user	20
SetUserBlockedByStrRoomId	Disables/Enables the audio and video of a user (string-type room ID)	20
DismissRoom	Dismisses a room	20
RemoveUserByStrRoomId	Removes a user from a room (by room ID in string type)	20
DismissRoomByStrRoomId	Closes a room (by room ID in string type)	20

Call Quality Monitoring APIs

API Name	Feature	Frequency Limit (maximum requests per second)
DescribeRoomInfo	Queries the room list	20
DescribeUnusualEvent	Queries abnormal user experiences	20
DescribeUserEvent	Queries the events during a call	20
DescribeCallDetailInfo	Queries the user list and call metrics	20
DescribeUserInfo	Queries the user list	20
DescribeScaleInfo	Queries the number of rooms and users	20

Stream mixing and relay APIs

API Name	Feature	Frequency Limit (maximum requests per second)
StartPublishCdnStream	Starts a relaying task	20
UpdatePublishCdnStream	Changes relaying parameters	20
StopPublishCdnStream	Stops a relaying task	20

On-cloud recording APIs

API Name	Feature	Frequency Limit (maximum requests per second)
CreateCloudRecording	Starts an on-cloud recording task	20
DeleteCloudRecording	Stops an on-cloud recording task	20
DescribeCloudRecording	Queries the status of a recording task	20
ModifyCloudRecording	Modifies a recording task	20

Usage Statistics APIs

API Name	Feature	Frequency Limit (maximum requests per second)
DescribeTrtcUsage	Queries TRTC audio/video duration	5
DescribeRecordingUsage	Queries TRTC recording usage	5
DescribeMixTranscodingUsage	Queries TRTC On-Cloud MixTranscoding usage	5
DescribeRelayUsage	Queries TRTC relay to CDN usage	5
DescribeTrtcRoomUsage	Queries usage data grouped by room	-

Data Monitoring APIs

API Name	Feature	Frequency Limit (maximum requests per second)
DescribeTRTCRealTimeScaleData	Query TRTC Monitoring Dashboard - Real-Time Monitoring Scale	20
DescribeTRTCRealTimeQualityData	Query TRTC Monitoring Dashboard - Real-Time Monitoring Quality	20
DescribeTRTCMarketScaleData	Query TRTC Monitoring Dashboard - Data Dashboard Scale Metrics	20
DescribeTRTCMarketQualityData	Query TRTC Monitoring Dashboard - Data Dashboard Quality Metrics	20

Pull stream Relay Related interface

API Name	Feature	Frequency Limit (maximum requests per second)
StartStreamIngest	Start Pull stream Relay	20
StopStreamIngest	Stop Pull stream Relay	20
DescribeStreamIngest	Query Relay Task	20

Making API Requests
Request Structure

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1. Service Address

The API supports access from either a nearby region (at trtc.tencentcloudapi.com) or a specified region (at trtc.ap-guangzhou.tencentcloudapi.com for Guangzhou, for example).

We recommend using the domain name to access the nearest server. When you call an API, the request is automatically resolved to a server in the region **nearest** to the location where the API is initiated. For example, when you initiate an API request in Guangzhou, this domain name is automatically resolved to a Guangzhou server, the result is the same as that of specifying the region in the domain like "trtc.ap-guangzhou.tencentcloudapi.com".

Note: For latency-sensitive businesses, we recommend that you specify the region in the domain name.

Tencent Cloud currently supports the following regions:

Hosted region	Domain name
Local access region (recommended, only for non-financial availability zones)	trtc.tencentcloudapi.com
South China (Guangzhou)	trtc.ap-guangzhou.tencentcloudapi.com
East China (Shanghai)	trtc.ap-shanghai.tencentcloudapi.com
North China (Beijing)	trtc.ap-beijing.tencentcloudapi.com
Southwest China (Chengdu)	trtc.ap-chengdu.tencentcloudapi.com
Southwest China (Chongqing)	trtc.ap-chongqing.tencentcloudapi.com
Hong Kong, Macao, Taiwan (Hong Kong, China)	trtc.ap-hongkong.tencentcloudapi.com
Southeast Asia (Singapore)	trtc.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	trtc.ap-bangkok.tencentcloudapi.com

South Asia (Mumbai)	trtc.ap-mumbai.tencentcloudapi.com
Northeast Asia (Seoul)	trtc.ap-seoul.tencentcloudapi.com
Northeast Asia (Tokyo)	trtc.ap-tokyo.tencentcloudapi.com
U.S. East Coast (Virginia)	trtc.na-ashburn.tencentcloudapi.com
U.S. West Coast (Silicon Valley)	trtc.na-siliconvalley.tencentcloudapi.com
North America (Toronto)	trtc.na-toronto.tencentcloudapi.com
Europe (Frankfurt)	trtc.eu-frankfurt.tencentcloudapi.com

2. Communications Protocol

All the Tencent Cloud APIs communicate via HTTPS, providing highly secure communication tunnels.

3. Request Methods

Supported HTTP request methods:

- POST (recommended)
- GET

The Content-Type types supported by POST requests:

- application/json (recommended). The TC3-HMAC-SHA256 signature algorithm must be used.
- application/x-www-form-urlencoded. The HmacSHA1 or HmacSHA256 signature algorithm must be used.
- multipart/form-data (only supported by certain APIs). You must use TC3-HMAC-SHA256 to calculate the signature.

The size of a GET request packet is up to 32 KB. The size of a POST request is up to 1 MB when the HmacSHA1 or HmacSHA256 signature algorithm is used, and up to 10 MB when TC3-HMAC-SHA256 is used.

4. Character Encoding

Only UTF-8 encoding is used.

Common Params

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Common parameters are used for all APIs authenticating requestors. Common parameters must be included in all API requests, and they will not be described in individual API documents.

The exact contents of the common parameters will vary depending on the version of the signature method you use.

Common parameters for Signature Algorithm v3

When the TC3-HMAC-SHA256 algorithm is used, the common parameters should be uniformly placed in the HTTP request header, as shown below:

Parameter Name	Type	Required	Description
X-TC-Action	String	Yes	The name of the API for the desired operation. For the specific value, see description of common parameter `Action` in the input parameters in r documentation. For example, the API for querying the CVM instance list i `DescribeInstances` .
X-TC-Region	String	Yes	Region parameter, which is used to identify the region to which the data y work with belongs. For values supported for an API, see the description c parameter `Region` in the input parameters in related API documentati parameter is not required for some APIs (which will be indicated in relate documentation), and will not take effect even it is passed.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request for example, 1529223702. Note: If the difference between the UNIX times server time is greater than 5 minutes, a signature expiration error may oc
X-TC-Version	String	Yes	API version of the action. For the valid values, see the description of the c parameter `Version` in the API documentation. For example, the versi 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_requ SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc96317 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is UTC time, and this value must match the value of X-TC-Timestamp (a co

			parameter) in UTC time format; service is the name of the product/service generally a domain name prefix. For example, a domain name cvm.tencen refers to the CVM product and the value would be cvm; - SignedHeaders: The headers that contains the authentication informatic type and host are the required headers; - Signature: Signature digest.
X-TC-Token	String	No	The token used for a temporary certificate. It must be used with a tempora can obtain the temporary key and token by calling a CAM API. No token i a long-term key.

Assuming you want to query the list of Cloud Virtual Machine instances in the Guangzhou region, the request structure in the form of request URL, request header and request body may be as follows:

Example of an HTTP GET request structure:

```
https://cvm.tencentcloudapi.com/?Limit=10&Offset=0

Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/20
18-10-09/cvm/tc3_request, SignedHeaders=content-type;host, Signature=5da7a33f6993
f0614b047e5df4582db9e9bf4672ba50567dba16c6ccf174c474
Content-Type: application/x-www-form-urlencoded
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1539084154
X-TC-Region: ap-guangzhou
```

The following example shows you how to structure an HTTP POST (application/json) request:

```
https://cvm.tencentcloudapi.com/

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
Content-Type: application/json
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

{"Offset":0,"Limit":10}
```

Example of an HTTP POST (multipart/form-data) request structure (only supported by specific APIs):

```
https://cvm.tencentcloudapi.com/

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
Content-Type: multipart/form-data; boundary=58731222010402
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

--58731222010402
Content-Disposition: form-data; name="Offset"

0
--58731222010402
Content-Disposition: form-data; name="Limit"

10
--58731222010402--
```

Common parameters for Signature Algorithm v1

To adopt the HmacSHA1 and HmacSHA256 signature methods, common parameters must be put into the request string, as shown below:

Parameter Name	Type	Required	Description
Action	String	Yes	The name of the API for the desired operation. For the specific value, see the description of common parameter `Action` in the input parameters in related API documentation. For example, the API for querying the CVM instance list is `DescribeInstances`.
Region	String	Yes	Region parameter, which is used to identify the region to which the data you want to work with belongs. For values supported for an API, see the description of common parameter `Region` in the input parameters in related API documentation. Note: This parameter is not required for some APIs (which will be indicated in related API documentation), and will not take effect even if it is passed.

Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request was initiated, for example, 1529223702. If the difference between the value and the current system time is too large, a signature expiration error may occur.
Nonce	Integer	Yes	A random positive integer used along with `Timestamp` to prevent replay attacks.
SecretId	String	Yes	The identifying SecretId obtained on the Cloud API Key page. A SecretId corresponds to a unique SecretKey which is used to generate the request signature (Signature).
Signature	String	Yes	Request signature used to verify the validity of this request. This is calculated based on the actual input parameters. For more information about how this is calculated, see the API authentication documentation.
Version	String	Yes	API version of the action. For the valid values, see the description of the common input parameter `Version` in the API documentation. For example, the version of CVM is 2017-03-12.
SignatureMethod	String	No	Signature method. Currently, only HmacSHA256 and HmacSHA1 are supported. The HmacSHA256 algorithm is used to verify the signature only when this parameter is specified as HmacSHA256. In other cases, the signature is verified with HmacSHA1.
Token	String	No	The token used for a temporary certificate. It must be used with a temporary key. You can obtain the temporary key and token by calling a CAM API. No token is required for a long-term key.

Assuming you want to query the list of Cloud Virtual Machine instances in the Guangzhou region, the request structure in the form of request URL, request header and request body may be as follows:

Example of an HTTP GET request structure:

```
https://cvm.tencentcloudapi.com/?Action=DescribeInstances&Version=2017-03-12&Sign
atureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb45
9b1bbee224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId
=AKIDEXAMPLE

Host: cvm.tencentcloudapi.com
Content-Type: application/x-www-form-urlencoded
```

Example of an HTTP POST request structure:

```
https://cvm.tencentcloudapi.com/

Host: cvm.tencentcloudapi.com
Content-Type: application/x-www-form-urlencoded

Action=DescribeInstances&Version=2017-03-12&SignatureMethod=HmacSHA256&Timestamp=
1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d18
1d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

Region List

The supported Region field values for all APIs in this product are listed as below. For any API that does not support any of the following regions, this field will be described additionally in the relevant API document.

Region	Value
Southeast Asia (Bangkok)	ap-bangkok
North China (Beijing)	ap-beijing
South China (Guangzhou)	ap-guangzhou
Hong Kong/Macao/Taiwan (China) (Hong Kong (China))	ap-hongkong
Southeast Asia (Jakarta)	ap-jakarta
South Asia (Mumbai)	ap-mumbai
East China (Shanghai)	ap-shanghai
Southeast Asia (Singapore)	ap-singapore
North America (Toronto)	na-toronto

Signature v3

最終更新日：：2024-03-11 11:06:24

TencentCloud API authenticates every single request, i.e., the request must be signed using the security credentials in the designated steps. Each request has to contain the signature information (Signature) in the common request parameters and be sent in the specified way and format.

Applying for Security Credentials

The security credential used in this document is a key, which includes a SecretId and a SecretKey. Each user can have up to two pairs of keys.

- SecretId: Used to identify the API caller, which is just like a username.
- SecretKey: Used to authenticate the API caller, which is just like a password.
- **You must keep your security credentials private and avoid disclosure; otherwise, your assets may be compromised. If they are disclosed, please disable them as soon as possible.**

You can apply for the security credentials through the following steps:

1. Log in to the Tencent Cloud Console.
2. Go to the TencentCloud API Key console page.
3. On the TencentCloud API Key page, click **Create** to create a SecretId/SecretKey pair.

Using the Resources for Developers

TencentCloud API comes with SDKs for seven commonly used programming languages, including Python, Java, PHP, Go, NodeJS and .NET. In addition, it provides API Explorer which enables online call, signature verification, and SDK code generation. If you have any troubles calculating a signature, consult these resources.

TC3-HMAC-SHA256 Signature Algorithm

Compatible with the previous HmacSHA1 and HmacSHA256 signature algorithms, the TC3-HMAC-SHA256 signature algorithm is more secure and supports larger requests and JSON format with better performance. We recommend using TC3-HMAC-SHA256 to calculate the signature.

TencentCloud API supports both GET and POST requests. For the GET method, only the Content-Type: application/x-www-form-urlencoded protocol format is supported. For the POST method, two protocol formats,

Content-Type: application/json and Content-Type: multipart/form-data, are supported. The JSON format is supported by default for all business APIs, and the multipart format is supported only for specific business APIs. In this case, the API cannot be called in JSON format. See the specific business API documentation for more information. The POST method is recommended, as there is no difference in the results of both the methods, but the GET method only supports request packets up to 32 KB.

The following uses querying the list of CVM instances in the Guangzhou region as an example to describe the steps of signature splicing. We chose this API because:

1. CVM is activated by default, and this API is often used;
2. It is read-only and does not change the status of existing resources;
3. It covers many types of parameters, which allows it to be used to demonstrate how to use arrays containing data structures.

In the example, we try to choose common parameters and API parameters that are prone to mistakes. When you actually call an API, please use parameters based on the actual conditions. The parameters vary by API. Do not copy the parameters and values in this example.

Assuming that your SecretId and SecretKey are `AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******` and `Gu5t9xGARNpq86cd98joQYCN3*******`, respectively, if you want to view the status of the instance in the Guangzhou region whose CVM instance name is "unnamed" and have only one data entry returned, then the request may be:

```
curl -X POST https://cvm.tencentcloudapi.com \
-H "Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3******
*/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e4
1437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff" \
-H "Content-Type: application/json; charset=utf-8" \
-H "Host: cvm.tencentcloudapi.com" \
-H "X-TC-Action: DescribeInstances" \
-H "X-TC-Timestamp: 1551113065" \
-H "X-TC-Version: 2017-03-12" \
-H "X-TC-Region: ap-guangzhou" \
-d '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-name"}]}'
```

The signature calculation process is explained in detail below.

1. Concatenating the CanonicalRequest String

Concatenate the canonical request string (CanonicalRequest) in the following pseudocode format:

```
CanonicalRequest =
HTTPRequestMethod + '\n' +
CanonicalURI + '\n' +
```

```
CanonicalQueryString + '\n' +
CanonicalHeaders + '\n' +
SignedHeaders + '\n' +
HashedRequestPayload
```

Field Name	Explanation
HTTPRequestMethod	HTTP request method (GET or POST). This example uses `POST` .
CanonicalURI	URI parameter. Slash ("/") is used for API 3.0.
CanonicalQueryString	The query string in the URL of the originating HTTP request. This is always an empty st “” for POST requests, and is the string after the question mark (?) for GET requests. Fo example: Limit=10&Offset=0。 Note: `CanonicalQueryString` must be URL-encoded, referencing RFC3986, the UTF8 character set. We recommend using the programming language library. All speci characters must be encoded and capitalized.
CanonicalHeaders	Header information for signature calculation, including at least two headers of `host` `content-type` . Custom headers can be added to participate in the signature proce improve the uniqueness and security of the request. Concatenation rules: 1. Both the key and value of the header should be converted to lowercase with the lead and trailing spaces removed, so they are concatenated in the format of key:value\n format; 2. If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase). The calculation result in this example is `content-type:application/json; charset=utf-8\nhost:cvm.tencentcloudapi.com\n` . Note: `content-type` must match the actually sent content. In some programming languages, a charset value would be added even if it is not specified. In this case, the request sent is different from the one signed, and the sever will return an error indicating signature verification failed.
SignedHeaders	Header information for signature calculation, indicating which headers of the request participate in the signature process (they must each individually correspond to the heac in CanonicalHeaders). `Content-type` and `host` are required headers. Concatenation rules: 1. Both the key and value of the header should be converted to lowercase; 2. If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase) and separated by semicolons (;). The value in this example is `content-type;host`
HashedRequestPayload	Hash value of the request payload (i.e., the body, such as `{"Limit": 1, "Filter`

	`[{"Values": ["unnamed"], "Name": "instance-name"}]` in this exampl The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(RequestPayload))) by SHA256 hashing the pay of the HTTP request, performing hexadecimal encoding, and finally converting the enco string to lowercase letters. For GET requests, `RequestPayload` is always an empt string. The calculation result in this example is `99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b49`

According to the rules above, the `CanonicalRequest` string obtained in the example is as follows:

```
POST
/

content-type:application/json; charset=utf-8
host:cvm.tencentcloudapi.com

content-type;host
99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b4907
```

2. Concatenating the String to Be Signed

The string to sign is concatenated as follows:

```
StringToSign =
Algorithm + \n +
RequestTimestamp + \n +
CredentialScope + \n +
HashedCanonicalRequest
```

Field Name	Explanation
Algorithm	Signature algorithm, which is currently always `TC3-HMAC-SHA256`.
RequestTimestamp	Request timestamp, i.e., the value of the common parameter `X-TC-Timestamp` in request header, which is the UNIX timestamp of the current time in seconds, such as `1551113065` in this example.
CredentialScope	Scope of the credential in the format of `Date/service/tc3_request`, including date, requested service and termination string (tc3_request). **`Date` is a date in UT time, whose value should match the UTC date converted by the common parameter `X-TC-Timestamp`**; `service` is the product name, which should m the domain name of the product called. The calculation result in this example is `2019-25/cvm/tc3_request`.

HashedCanonicalRequest	Hash value of the CanonicalRequest string concatenated in the steps above. The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(CanonicalRequ The calculation result in this example is `2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3ad`

Note:

1. Date has to be calculated from the timestamp "X-TC-Timestamp" and the time zone is UTC+0. If you add the system's local time zone information (such as UTC+8), calls can succeed both day and night but will definitely fail at 00:00. For example, if the timestamp is 1551113065 and the time in UTC+8 is 2019-02-26 00:44:25, the UTC+0 date in the calculated Date value should be 2019-02-25 instead of 2019-02-26.
2. Timestamp must be the same as your current system time, and your system time and standard time must be synced; if the difference between Timestamp and your current system time is larger than five minutes, the request will fail. If your system time is out of sync with the standard time for a while, the request will fail and return a signature expiration error.

According to the preceding rules, the string to be signed obtained in the example is as follows:

```
TC3-HMAC-SHA256
1551113065
2019-02-25/cvm/tc3_request
2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a
```

3. Calculating the Signature

1. Calculate the derived signature key with the following pseudocode:

```
SecretKey = "Gu5t9xGARNpq86cd98joQYCN3*******"
SecretDate = HMAC_SHA256("TC3" + SecretKey, Date)
SecretService = HMAC_SHA256(SecretDate, Service)
SecretSigning = HMAC_SHA256(SecretService, "tc3_request")
```

Field Name	Explanation
SecretKey	The original SecretKey, i.e., `Gu5t9xGARNpq86cd98joQYCN3*******` .
Date	The Date field information in `Credential` , such as `2019-02-25` in this example.

Service	Value in the Service field in `Credential`, such as `cvm` in this example.

2. Calculate the signature with the following pseudocode:

```
Signature = HexEncode(HMAC_SHA256(SecretSigning, StringToSign))
```

4. Concatenating the Authorization

The Authorization is concatenated as follows:

```
Authorization =
Algorithm + ' ' +
'Credential=' + SecretId + '/' + CredentialScope + ', ' +
'SignedHeaders=' + SignedHeaders + ', ' +
'Signature=' + Signature
```

Field Name	Explanation
Algorithm	Signature algorithm, which is always `TC3-HMAC-SHA256`.
SecretId	The SecretId in the key pair, i.e., `AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******`.
CredentialScope	Credential scope (see above). The calculation result in this example is `2019-02-25/cvm/tc3_request`.
SignedHeaders	Header information for signature calculation (see above), such as `content-type;host` in this example.
Signature	Signature value. The calculation result in this example is `c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff`.

According to the rules above, the value obtained in the example is:

```
TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

The following example shows a finished authorization header:

```
POST https://cvm.tencentcloudapi.com/
Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

```
Content-Type: application/json; charset=utf-8
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1551113065
X-TC-Region: ap-guangzhou

{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-name"}]}
```

5. Signature Demo

When calling API 3.0, you are recommended to use the corresponding Tencent Cloud SDK 3.0 which encapsulates the signature process, enabling you to focus on only the specific APIs provided by the product when developing. See SDK Center for more information. Currently, the following programming languages are supported:

- Python
- Java
- PHP
- Go
- NodeJS
- .NET

To further explain the signing process, we will use a programming language to implement the process described above. The request domain name, API and parameter values in the sample are used here. This goal of this example is only to provide additional clarification for the signature process, please see the SDK for actual usage.

The final output URL might be: https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******&Signature=EliP9YW3pW28FpsEdkXt%2F%2BWcGeI%3D&Timestamp=1465185768&Version=2017-03-12.

Note: The key in the example is fictitious, and the timestamp is not the current time of the system, so if this URL is opened in the browser or called using commands such as curl, an authentication error will be returned: Signature expired. In order to get a URL that can work properly, you need to replace the SecretId and SecretKey in the example with your real credentials and use the current time of the system as the Timestamp.

Note: In the example below, even if you use the same programming language, the order of the parameters in the URL may be different for each execution. However, the order does not matter, as long as all the parameters are included in the URL and the signature is calculated correctly.

Note: The following code is only applicable to API 3.0. It cannot be directly used in other signature processes. Even with an older API, signature calculation errors may occur due to the differences in details. Please refer to the corresponding documentation.

Java

```
import java.nio.charset.Charset;
import java.nio.charset.StandardCharsets;
import java.security.MessageDigest;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.TimeZone;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.xml.bind.DatatypeConverter;

public class TencentCloudAPITC3Demo {
private final static Charset UTF8 = StandardCharsets.UTF_8;
private final static String SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
private final static String SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******";
private final static String CT_JSON = "application/json; charset=utf-8";

public static byte[] hmac256(byte[] key, String msg) throws Exception {
Mac mac = Mac.getInstance("HmacSHA256");
SecretKeySpec secretKeySpec = new SecretKeySpec(key, mac.getAlgorithm());
mac.init(secretKeySpec);
return mac.doFinal(msg.getBytes(UTF8));
}

public static String sha256Hex(String s) throws Exception {
MessageDigest md = MessageDigest.getInstance("SHA-256");
byte[] d = md.digest(s.getBytes(UTF8));
return DatatypeConverter.printHexBinary(d).toLowerCase();
}

public static void main(String[] args) throws Exception {
String service = "cvm";
String host = "cvm.tencentcloudapi.com";
String region = "ap-guangzhou";
String action = "DescribeInstances";
String version = "2017-03-12";
String algorithm = "TC3-HMAC-SHA256";
String timestamp = "1551113065";
//String timestamp = String.valueOf(System.currentTimeMillis() / 1000);
SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
// Pay attention to the time zone; otherwise, errors may occur
sdf.setTimeZone(TimeZone.getTimeZone("UTC"));
String date = sdf.format(new Date(Long.valueOf(timestamp + "000")));

// ************ Step 1: Concatenate the CanonicalRequest string ************
```

```
String httpRequestMethod = "POST";
String canonicalUri = "/";
String canonicalQueryString = "";
String canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "hos
t:" + host + "\n";
String signedHeaders = "content-type;host";

String payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"], \"Name
\": \"instance-name\"}]}";
String hashedRequestPayload = sha256Hex(payload);
String canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canoni
calQueryString + "\n"
+ canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
System.out.println(canonicalRequest);

// ************* Step 2: Concatenate the string to sign *************
String credentialScope = date + "/" + service + "/" + "tc3_request";
String hashedCanonicalRequest = sha256Hex(canonicalRequest);
String stringToSign = algorithm + "\n" + timestamp + "\n" + credentialScope +
"\n" + hashedCanonicalRequest;
System.out.println(stringToSign);

// ************* Step 3: Calculate the signature *************
byte[] secretDate = hmac256(("TC3" + SECRET_KEY).getBytes(UTF8), date);
byte[] secretService = hmac256(secretDate, service);
byte[] secretSigning = hmac256(secretService, "tc3_request");
String signature = DatatypeConverter.printHexBinary(hmac256(secretSigning, string
ToSign)).toLowerCase();
System.out.println(signature);

// ************* Step 4: Concatenate the Authorization *************
String authorization = algorithm + " " + "Credential=" + SECRET_ID + "/" + creden
tialScope + ", "
+ "SignedHeaders=" + signedHeaders + ", " + "Signature=" + signature;
System.out.println(authorization);

TreeMap<String, String> headers = new TreeMap<String, String>();
headers.put("Authorization", authorization);
headers.put("Content-Type", CT_JSON);
headers.put("Host", host);
headers.put("X-TC-Action", action);
headers.put("X-TC-Timestamp", timestamp);
headers.put("X-TC-Version", version);
headers.put("X-TC-Region", region);

StringBuilder sb = new StringBuilder();
sb.append("curl -X POST https://").append(host)
```

```
.append(" -H \"Authorization: ").append(authorization).append("\"")
.append(" -H \"Content-Type: application/json; charset=utf-8\"")
.append(" -H \"Host: ").append(host).append("\"")
.append(" -H \"X-TC-Action: ").append(action).append("\"")
.append(" -H \"X-TC-Timestamp: ").append(timestamp).append("\"")
.append(" -H \"X-TC-Version: ").append(version).append("\"")
.append(" -H \"X-TC-Region: ").append(region).append("\"")
.append(" -d '").append(payload).append("'");
System.out.println(sb.toString());
}
}
```

Python

```
# -*- coding: utf-8 -*-
import hashlib, hmac, json, os, sys, time
from datetime import datetime

# Key Parameters
secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*******"

service = "cvm"
host = "cvm.tencentcloudapi.com"
endpoint = "https://" + host
region = "ap-guangzhou"
action = "DescribeInstances"
version = "2017-03-12"
algorithm = "TC3-HMAC-SHA256"
#timestamp = int(time.time())
timestamp = 1551113065
date = datetime.utcfromtimestamp(timestamp).strftime("%Y-%m-%d")
params = {"Limit": 1, "Filters": [{"Name": "instance-name", "Values": ["unnamed"
]}]}

# ************* Step 1: Concatenate the CanonicalRequest string *************
http_request_method = "POST"
canonical_uri = "/"
canonical_querystring = ""
ct = "application/json; charset=utf-8"
payload = json.dumps(params)
canonical_headers = "content-type:%s\nhost:%s\n" % (ct, host)
signed_headers = "content-type;host"
hashed_request_payload = hashlib.sha256(payload.encode("utf-8")).hexdigest()
canonical_request = (http_request_method + "\n" +
canonical_uri + "\n" +
```

```
canonical_querystring + "\n" +
canonical_headers + "\n" +
signed_headers + "\n" +
hashed_request_payload)
print(canonical_request)

# ************* Step 2: Concatenate the string to sign *************
credential_scope = date + "/" + service + "/" + "tc3_request"
hashed_canonical_request = hashlib.sha256(canonical_request.encode("utf-8")).hexd
igest()
string_to_sign = (algorithm + "\n" +
str(timestamp) + "\n" +
credential_scope + "\n" +
hashed_canonical_request)
print(string_to_sign)


# ************* Step 3: Calculate the Signature *************
# Function for computing signature digest
def sign(key, msg):
return hmac.new(key, msg.encode("utf-8"), hashlib.sha256).digest()
secret_date = sign(("TC3" + secret_key).encode("utf-8"), date)
secret_service = sign(secret_date, service)
secret_signing = sign(secret_service, "tc3_request")
signature = hmac.new(secret_signing, string_to_sign.encode("utf-8"), hashlib.sha2
56).hexdigest()
print(signature)

# ************* Step 4: Concatenate the Authorization *************
authorization = (algorithm + " " +
"Credential=" + secret_id + "/" + credential_scope + ", " +
"SignedHeaders=" + signed_headers + ", " +
"Signature=" + signature)
print(authorization)

print('curl -X POST ' + endpoint
+ ' -H "Authorization: ' + authorization + '"'
+ ' -H "Content-Type: application/json; charset=utf-8"'
+ ' -H "Host: ' + host + '"'
+ ' -H "X-TC-Action: ' + action + '"'
+ ' -H "X-TC-Timestamp: ' + str(timestamp) + '"'
+ ' -H "X-TC-Version: ' + version + '"'
+ ' -H "X-TC-Region: ' + region + '"'
+ " -d '" + payload + "'")
```

Golang

```
package main

import (
"crypto/hmac"
"crypto/sha256"
"encoding/hex"
"fmt"
"time"
)

func sha256hex(s string) string {
b := sha256.Sum256([]byte(s))
return hex.EncodeToString(b[:])
}

func hmacsha256(s, key string) string {
hashed := hmac.New(sha256.New, []byte(key))
hashed.Write([]byte(s))
return string(hashed.Sum(nil))
}

func main() {
secretId := "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
secretKey := "Gu5t9xGARNpq86cd98joQYCN3*******"
host := "cvm.tencentcloudapi.com"
algorithm := "TC3-HMAC-SHA256"
service := "cvm"
version := "2017-03-12"
action := "DescribeInstances"
region := "ap-guangzhou"
//var timestamp int64 = time.Now().Unix()
var timestamp int64 = 1551113065

// step 1: build canonical request string
httpRequestMethod := "POST"
canonicalURI := "/"
canonicalQueryString := ""
canonicalHeaders := "content-type:application/json; charset=utf-8\n" + "host:" +
host + "\n"
signedHeaders := "content-type;host"
payload := `{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-na
me"}]}`
hashedRequestPayload := sha256hex(payload)
canonicalRequest := fmt.Sprintf("%s\n%s\n%s\n%s\n%s\n%s",
httpRequestMethod,
canonicalURI,
```

```
canonicalQueryString,
canonicalHeaders,
signedHeaders,
hashedRequestPayload)
fmt.Println(canonicalRequest)

// step 2: build string to sign
date := time.Unix(timestamp, 0).UTC().Format("2006-01-02")
credentialScope := fmt.Sprintf("%s/%s/tc3_request", date, service)
hashedCanonicalRequest := sha256hex(canonicalRequest)
string2sign := fmt.Sprintf("%s\n%d\n%s\n%s",
algorithm,
timestamp,
credentialScope,
hashedCanonicalRequest)
fmt.Println(string2sign)

// step 3: sign string
secretDate := hmacsha256(date, "TC3"+secretKey)
secretService := hmacsha256(service, secretDate)
secretSigning := hmacsha256("tc3_request", secretService)
signature := hex.EncodeToString([]byte(hmacsha256(string2sign, secretSigning)))
fmt.Println(signature)

// step 4: build authorization
authorization := fmt.Sprintf("%s Credential=%s/%s, SignedHeaders=%s, Signature=%
s",
algorithm,
secretId,
credentialScope,
signedHeaders,
signature)
fmt.Println(authorization)

curl := fmt.Sprintf(`curl -X POST https://%s\
-H "Authorization: %s"\
-H "Content-Type: application/json; charset=utf-8"\
-H "Host: %s" -H "X-TC-Action: %s"\
-H "X-TC-Timestamp: %d"\
-H "X-TC-Version: %s"\
-H "X-TC-Region: %s"\
-d '%s'`, host, authorization, host, action, timestamp, version, region, payload)
fmt.Println(curl)
}
```

PHP

```php
<?php
$secretId = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
$secretKey = "Gu5t9xGARNpq86cd98joQYCN3*******";
$host = "cvm.tencentcloudapi.com";
$service = "cvm";
$version = "2017-03-12";
$action = "DescribeInstances";
$region = "ap-guangzhou";
// $timestamp = time();
$timestamp = 1551113065;
$algorithm = "TC3-HMAC-SHA256";

// step 1: build canonical request string
$httpRequestMethod = "POST";
$canonicalUri = "/";
$canonicalQueryString = "";
$canonicalHeaders = "content-type:application/json; charset=utf-8\n"."host:".$hos
t."\n";
$signedHeaders = "content-type;host";
$payload = '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-na
me"}]}';
$hashedRequestPayload = hash("SHA256", $payload);
$canonicalRequest = $httpRequestMethod."\n"
.$canonicalUri."\n"
.$canonicalQueryString."\n"
.$canonicalHeaders."\n"
.$signedHeaders."\n"
.$hashedRequestPayload;
echo $canonicalRequest.PHP_EOL;

// step 2: build string to sign
$date = gmdate("Y-m-d", $timestamp);
$credentialScope = $date."/".$service."/tc3_request";
$hashedCanonicalRequest = hash("SHA256", $canonicalRequest);
$stringToSign = $algorithm."\n"
.$timestamp."\n"
.$credentialScope."\n"
.$hashedCanonicalRequest;
echo $stringToSign.PHP_EOL;

// step 3: sign string
$secretDate = hash_hmac("SHA256", $date, "TC3".$secretKey, true);
$secretService = hash_hmac("SHA256", $service, $secretDate, true);
$secretSigning = hash_hmac("SHA256", "tc3_request", $secretService, true);
$signature = hash_hmac("SHA256", $stringToSign, $secretSigning);
echo $signature.PHP_EOL;
```

```
// step 4: build authorization
$authorization = $algorithm
." Credential=".$secretId."/".$credentialScope
.", SignedHeaders=content-type;host, Signature=".$signature;
echo $authorization.PHP_EOL;

$curl = "curl -X POST https://".$host
.' -H "Authorization: '.$authorization.'"'
.' -H "Content-Type: application/json; charset=utf-8"'
.' -H "Host: '.$host.'"'
.' -H "X-TC-Action: '.$action.'"'
.' -H "X-TC-Timestamp: '.$timestamp.'"'
.' -H "X-TC-Version: '.$version.'"'
.' -H "X-TC-Region: '.$region.'"'
." -d '".$payload."'";
echo $curl.PHP_EOL;
```

Ruby

```
# -*- coding: UTF-8 -*-
# require ruby>=2.3.0
require 'digest'
require 'json'
require 'time'
require 'openssl'

# Key Parameters
secret_id = 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******'
secret_key = 'Gu5t9xGARNpq86cd98joQYCN3*******'

service = 'cvm'
host = 'cvm.tencentcloudapi.com'
endpoint = 'https://' + host
region = 'ap-guangzhou'
action = 'DescribeInstances'
version = '2017-03-12'
algorithm = 'TC3-HMAC-SHA256'
# timestamp = Time.now.to_i
timestamp = 1551113065
date = Time.at(timestamp).utc.strftime('%Y-%m-%d')

# ************* Step 1: Concatenate the CanonicalRequest string *************
http_request_method = 'POST'
canonical_uri = '/'
canonical_querystring = ''
```

```
canonical_headers = "content-type:application/json; charset=utf-8\nhost:#{host}
\n"
signed_headers = 'content-type;host'
# params = { 'Limit' => 1, 'Filters' => [{ 'Name' => 'instance-name', 'Values' =>
['unnamed'] }] }
# payload = JSON.generate(params, { 'ascii_only' => true, 'space' => ' ' })
# json will generate in random order, to get specified result in example, we hard
-code it here.
payload = '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-nam
e"}]}'
hashed_request_payload = Digest::SHA256.hexdigest(payload)
canonical_request = [
http_request_method,
canonical_uri,
canonical_querystring,
canonical_headers,
signed_headers,
hashed_request_payload,
].join("\n")

puts canonical_request

# ************* Step 2: Concatenate the string to sign *************
credential_scope = date + '/' + service + '/' + 'tc3_request'
hashed_request_payload = Digest::SHA256.hexdigest(canonical_request)
string_to_sign = [
algorithm,
timestamp.to_s,
credential_scope,
hashed_request_payload,
].join("\n")
puts string_to_sign

# ************* Step 3: Calculate the Signature *************
digest = OpenSSL::Digest.new('sha256')
secret_date = OpenSSL::HMAC.digest(digest, 'TC3' + secret_key, date)
secret_service = OpenSSL::HMAC.digest(digest, secret_date, service)
secret_signing = OpenSSL::HMAC.digest(digest, secret_service, 'tc3_request')
signature = OpenSSL::HMAC.hexdigest(digest, secret_signing, string_to_sign)
puts signature

# ************* Step 4: Concatenate the Authorization *************
authorization = "#{algorithm} Credential=#{secret_id}/#{credential_scope}, Signed
Headers=#{signed_headers}, Signature=#{signature}"
puts authorization

puts 'curl -X POST ' + endpoint \
```

```
+ ' -H "Authorization: ' + authorization + '"' \
+ ' -H "Content-Type: application/json; charset=utf-8"' \
+ ' -H "Host: ' + host + '"' \
+ ' -H "X-TC-Action: ' + action + '"' \
+ ' -H "X-TC-Timestamp: ' + timestamp.to_s + '"' \
+ ' -H "X-TC-Version: ' + version + '"' \
+ ' -H "X-TC-Region: ' + region + '"' \
+ " -d '" + payload + "'"
```

DotNet

```
using System;
using System.Collections.Generic;
using System.Security.Cryptography;
using System.Text;

public class Application
{
public static string SHA256Hex(string s)
{
using (SHA256 algo = SHA256.Create())
{
byte[] hashbytes = algo.ComputeHash(Encoding.UTF8.GetBytes(s));
StringBuilder builder = new StringBuilder();
for (int i = 0; i < hashbytes.Length; ++i)
{
builder.Append(hashbytes[i].ToString("x2"));
}
return builder.ToString();
}
}
public static byte[] HmacSHA256(byte[] key, byte[] msg)
{
using (HMACSHA256 mac = new HMACSHA256(key))
{
return mac.ComputeHash(msg);
}
}

public static Dictionary<String, String> BuildHeaders(string secretid,
string secretkey, string service, string endpoint, string region,
string action, string version, DateTime date, string requestPayload)
{
string datestr = date.ToString("yyyy-MM-dd");
DateTime startTime = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc);
long requestTimestamp = (long)Math.Round((date - startTime).TotalMilliseconds, Mi
```

```
dpointRounding.AwayFromZero) / 1000;
// ************* Step 1: Concatenate the CanonicalRequest string *************
string algorithm = "TC3-HMAC-SHA256";
string httpRequestMethod = "POST";
string canonicalUri = "/";
string canonicalQueryString = "";
string contentType = "application/json";
string canonicalHeaders = "content-type:" + contentType + "; charset=utf-8\n" +
"host:" + endpoint + "\n";
string signedHeaders = "content-type;host";
string hashedRequestPayload = SHA256Hex(requestPayload);
string canonicalRequest = httpRequestMethod + "\n"
+ canonicalUri + "\n"
+ canonicalQueryString + "\n"
+ canonicalHeaders + "\n"
+ signedHeaders + "\n"
+ hashedRequestPayload;
Console.WriteLine(canonicalRequest);
Console.WriteLine("-----------------------------------");

// ************* Step 2: Concatenate the string to sign *************
string credentialScope = datestr + "/" + service + "/" + "tc3_request";
string hashedCanonicalRequest = SHA256Hex(canonicalRequest);
string stringToSign = algorithm + "\n" + requestTimestamp.ToString() + "\n" + cre
dentialScope + "\n" + hashedCanonicalRequest;
Console.WriteLine(stringToSign);
Console.WriteLine("-----------------------------------");

// ************* Step 3: Calculate the signature *************
byte[] tc3SecretKey = Encoding.UTF8.GetBytes("TC3" + secretkey);
byte[] secretDate = HmacSHA256(tc3SecretKey, Encoding.UTF8.GetBytes(datestr));
byte[] secretService = HmacSHA256(secretDate, Encoding.UTF8.GetBytes(service));
byte[] secretSigning = HmacSHA256(secretService, Encoding.UTF8.GetBytes("tc3_requ
est"));
byte[] signatureBytes = HmacSHA256(secretSigning, Encoding.UTF8.GetBytes(stringTo
Sign));
string signature = BitConverter.ToString(signatureBytes).Replace("-", "").ToLower
();
Console.WriteLine(signature);
Console.WriteLine("-----------------------------------");

// ************* Step 4: Concatenate the Authorization *************
string authorization = algorithm + " "
+ "Credential=" + secretid + "/" + credentialScope + ", "
+ "SignedHeaders=" + signedHeaders + ", "
+ "Signature=" + signature;
Console.WriteLine(authorization);
```

```
Console.WriteLine("-----------------------------------");

Dictionary<string, string> headers = new Dictionary<string, string>();
headers.Add("Authorization", authorization);
headers.Add("Host", endpoint);
headers.Add("Content-Type", contentType + "; charset=utf-8");
headers.Add("X-TC-Timestamp", requestTimestamp.ToString());
headers.Add("X-TC-Version", version);
headers.Add("X-TC-Action", action);
headers.Add("X-TC-Region", region);
return headers;
}
public static void Main(string[] args)
{
// SecretID and SecretKey
string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******";

string service = "cvm";
string endpoint = "cvm.tencentcloudapi.com";
string region = "ap-guangzhou";
string action = "DescribeInstances";
string version = "2017-03-12";

// The timestamp `2019-02-26 00:44:25` used here is only for reference. In a proj
ect, use the following parameter:
// DateTime date = DateTime.UtcNow;
// Enter the correct time zone. We recommend using UTC timestamp to avoid errors.
DateTime date = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc).AddSeconds
(1551113065);
string requestPayload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"\\u672a\\u5
47d\\u540d\"], \"Name\": \"instance-name\"}]}";

Dictionary<string, string> headers = BuildHeaders(SECRET_ID, SECRET_KEY, service
, endpoint, region, action, version, date, requestPayload);

Console.WriteLine("POST https://cvm.tencentcloudapi.com");
foreach (KeyValuePair<string, string> kv in headers)
{
Console.WriteLine(kv.Key + ": " + kv.Value);
}
Console.WriteLine();
Console.WriteLine(requestPayload);
}
}
```

NodeJS

```
const crypto = require('crypto');

function sha256(message, secret = '', encoding) {
const hmac = crypto.createHmac('sha256', secret)
return hmac.update(message).digest(encoding)
}
function getHash(message, encoding = 'hex') {
const hash = crypto.createHash('sha256')
return hash.update(message).digest(encoding)
}
function getDate(timestamp) {
const date = new Date(timestamp * 1000)
const year = date.getUTCFullYear()
const month = ('0' + (date.getUTCMonth() + 1)).slice(-2)
const day = ('0' + date.getUTCDate()).slice(-2)
return `${year}-${month}-${day}`
}
function main(){

const SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
const SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******"

const endpoint = "cvm.tencentcloudapi.com"
const service = "cvm"
const region = "ap-guangzhou"
const action = "DescribeInstances"
const version = "2017-03-12"
//const timestamp = getTime()
const timestamp = 1551113065
const date = getDate(timestamp)

// ************* Step 1: Concatenate the CanonicalRequest string *************
const signedHeaders = "content-type;host"

const payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"], \"Name
\": \"instance-name\"}]}"

const hashedRequestPayload = getHash(payload);
const httpRequestMethod = "POST"
const canonicalUri = "/"
const canonicalQueryString = ""
const canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "hos
t:" + endpoint + "\n"

const canonicalRequest = httpRequestMethod + "\n"
```

```
+ canonicalUri + "\n"
+ canonicalQueryString + "\n"
+ canonicalHeaders + "\n"
+ signedHeaders + "\n"
+ hashedRequestPayload
console.log(canonicalRequest)
console.log("----------------------------")

// ************* Step 2: Concatenate the string to sign *************
const algorithm = "TC3-HMAC-SHA256"
const hashedCanonicalRequest = getHash(canonicalRequest);
const credentialScope = date + "/" + service + "/" + "tc3_request"
const stringToSign = algorithm + "\n" +
timestamp + "\n" +
credentialScope + "\n" +
hashedCanonicalRequest
console.log(stringToSign)
console.log("----------------------------")

// ************* Step 3: Calculate the signature *************
const kDate = sha256(date, 'TC3' + SECRET_KEY)
const kService = sha256(service, kDate)
const kSigning = sha256('tc3_request', kService)
const signature = sha256(stringToSign, kSigning, 'hex')
console.log(signature)
console.log("----------------------------")

// ************* Step 4: Concatenate the Authorization *************
const authorization = algorithm + " " +
"Credential=" + SECRET_ID + "/" + credentialScope + ", " +
"SignedHeaders=" + signedHeaders + ", " +
"Signature=" + signature
console.log(authorization)
console.log("----------------------------")

const Call_Information = 'curl -X POST ' + "https://" + endpoint
+ ' -H "Authorization: ' + authorization + '"'
+ ' -H "Content-Type: application/json; charset=utf-8"'
+ ' -H "Host: ' + endpoint + '"'
+ ' -H "X-TC-Action: ' + action + '"'
+ ' -H "X-TC-Timestamp: ' + timestamp.toString() + '"'
+ ' -H "X-TC-Version: ' + version + '"'
+ ' -H "X-TC-Region: ' + region + '"'
+ " -d '" + payload + "'"
console.log(Call_Information)
}
main()
```

C++

```
#include <iostream>
#include <iomanip>
#include <sstream>
#include <string>
#include <stdio.h>
#include <time.h>
#include <openssl/sha.h>
#include <openssl/hmac.h>

using namespace std;

string get_data(int64_t &timestamp)
{
string utcDate;
char buff[20] = {0};
// time_t timenow;
struct tm sttime;
sttime = *gmtime(&timestamp);
strftime(buff, sizeof(buff), "%Y-%m-%d", &sttime);
utcDate = string(buff);
return utcDate;
}
string int2str(int64_t n)
{
std::stringstream ss;
ss << n;
return ss.str();
}
string sha256Hex(const string &str)
{
char buf[3];
unsigned char hash[SHA256_DIGEST_LENGTH];
SHA256_CTX sha256;
SHA256_Init(&sha256);
SHA256_Update(&sha256, str.c_str(), str.size());
SHA256_Final(hash, &sha256);
std::string NewString = "";
for(int i = 0; i < SHA256_DIGEST_LENGTH; i++)
{
snprintf(buf, sizeof(buf), "%02x", hash[i]);
NewString = NewString + buf;
}
return NewString;
```

```
}
string HmacSha256(const string &key, const string &input)
{
unsigned char hash[32];

HMAC_CTX *h;
#if OPENSSL_VERSION_NUMBER < 0x10100000L
HMAC_CTX hmac;
HMAC_CTX_init(&hmac);
h = &hmac;
#else
h = HMAC_CTX_new();
#endif

HMAC_Init_ex(h, &key[0], key.length(), EVP_sha256(), NULL);
HMAC_Update(h, ( unsigned char* )&input[0], input.length());
unsigned int len = 32;
HMAC_Final(h, hash, &len);

#if OPENSSL_VERSION_NUMBER < 0x10100000L
HMAC_CTX_cleanup(h);
#else
HMAC_CTX_free(h);
#endif

std::stringstream ss;
ss << std::setfill('0');
for (int i = 0; i < len; i++)
{
ss << hash[i];
}

return (ss.str());
}
string HexEncode(const string &input)
{
static const char* const lut = "0123456789abcdef";
size_t len = input.length();

string output;
output.reserve(2 * len);
for (size_t i = 0; i < len; ++i)
{
const unsigned char c = input[i];
output.push_back(lut[c >> 4]);
output.push_back(lut[c & 15]);
}
```

```
return output;
}

int main()
{
string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******";

string service = "cvm";
string host = "cvm.tencentcloudapi.com";
string region = "ap-guangzhou";
string action = "DescribeInstances";
string version = "2017-03-12";
int64_t timestamp = 1551113065;
string date = get_data(timestamp);

// ************* Step 1: Concatenate the CanonicalRequest string *************
string httpRequestMethod = "POST";
string canonicalUri = "/";
string canonicalQueryString = "";
string canonicalHeaders = "content-type:application/json; charset=utf-8\nhost:" +
host + "\n";
string signedHeaders = "content-type;host";
string payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"], \"Name
\": \"instance-name\"}]}";
string hashedRequestPayload = sha256Hex(payload);
string canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canoni
calQueryString + "\n"
+ canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
cout << canonicalRequest << endl;
cout << "-----------------------" << endl;

// ************* Step 2: Concatenate the string to sign *************
string algorithm = "TC3-HMAC-SHA256";
string RequestTimestamp = int2str(timestamp);
string credentialScope = date + "/" + service + "/" + "tc3_request";
string hashedCanonicalRequest = sha256Hex(canonicalRequest);
string stringToSign = algorithm + "\n" + RequestTimestamp + "\n" + credentialScop
e + "\n" + hashedCanonicalRequest;
cout << stringToSign << endl;
cout << "-----------------------" << endl;

// ************* Step 3: Calculate the signature ***************
string kKey = "TC3" + SECRET_KEY;
string kDate = HmacSha256(kKey, date);
string kService = HmacSha256(kDate, service);
string kSigning = HmacSha256(kService, "tc3_request");
```

```
string signature = HexEncode(HmacSha256(kSigning, stringToSign));
cout << signature << endl;
cout << "-----------------------" << endl;

// ************* Step 4: Concatenate the Authorization *************
string authorization = algorithm + " " + "Credential=" + SECRET_ID + "/" + creden
tialScope + ", "
+ "SignedHeaders=" + signedHeaders + ", " + "Signature=" + signature;
cout << authorization << endl;
cout << "-----------------------" << endl;

string headers = "curl -X POST https://" + host + "\n"
+ " -H \"Authorization: " + authorization + "\n"
+ " -H \"Content-Type: application/json; charset=utf-8\"" + "\n"
+ " -H \"Host: " + host + "\n"
+ " -H \"X-TC-Action: " + action + "\n"
+ " -H \"X-TC-Timestamp: " + RequestTimestamp + "\n"
+ " -H \"X-TC-Version: " + version + "\n"
+ " -H \"X-TC-Region: " + region + "\n"
+ " -d '" + payload;
cout << headers << endl;
return 0;
};
```

Signature Failure

The following situational error codes for signature failure may occur. Please resolve the errors accordingly.

Error Code	Description
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes.
AuthFailure.SecretIdNotFound	The key does not exist. Please go to the console to check whether it is disabled or you copied fewer or more characters.
AuthFailure.SignatureFailure	Signature error. It is possible that the signature was calculated incorrectly, the signature does not match the content actually sent, or the SecretKey is incorrect.
AuthFailure.TokenFailure	Temporary certificate token error.
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type).

Signature

最終更新日：：2024-03-11 11:06:24

Tencent Cloud API authenticates each access request, i.e. each request needs to include authentication information (Signature) in the common parameters to verify the identity of the requester.
The Signature is generated by the security credentials which include SecretId and SecretKey. If you don't have the security credentials yet, go to the TencentCloud API Key page to apply for them; otherwise, you cannot invoke the TencentCloud API.

1. Applying for Security Credentials

Before using the TencentCloud API for the first time, go to the TencentCloud API Key page to apply for security credentials.
Security credentials consist of SecretId and SecretKey:

- SecretId is used to identify the API requester.
- SecretKey is used to encrypt the signature string and verify it on the server.
- **You must keep your security credentials private and avoid disclosure.**

You can apply for the security credentials through the following steps:

1. Log in to the Tencent Cloud Console.
2. Go to the TencentCloud API Key page.
3. On the API Key Management page, click **Create Key** to create a SecretId/SecretKey pair.

Note: Each account can have up to two pairs of SecretId/SecretKey.

2. Generating a Signature

With the SecretId and SecretKey, a signature can be generated. The following describes how to generate a signature:

Assume that the SecretId and SecretKey are:

- SecretId: `AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******`
- SecretKey: `Gu5t9xGARNpq86cd98joQYCN3*******`

Note: This is just an example. For actual operations, please use your own SecretId and SecretKey.

Take the Cloud Virtual Machine's request to view the instance list (DescribeInstances) as an example. When you invoke this API, the request parameters may be as follows:

Parameter name	Description	Parameter value
Action	Method name	DescribeInstances
SecretId	Key ID	`AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******`
Timestamp	Current timestamp	1465185768
Nonce	Random positive integer	11886
Region	Region where the instance is located	ap-guangzhou
InstanceIds.0	ID of the instance to query	ins-09dx96dg
Offset	Offset	0
Limit	Allowed maximum output	20
Version	API version number	2017-03-12

2.1. Sorting Parameters

First, sort all the request parameters in an ascending lexicographical order (ASCII code) by their names. Notes: (1) Parameters are sorted by their names instead of their values; (2) The parameters are sorted based on ASCII code, not in an alphabetical order or by values. For example, InstanceIds.2 should be arranged after InstanceIds.12. You can complete the sorting process using a sorting function in a programming language, such as the ksort function in PHP. The parameters in the example are sorted as follows:

```
{
'Action' : 'DescribeInstances',
'InstanceIds.0' : 'ins-09dx96dg',
'Limit' : 20,
'Nonce' : 11886,
'Offset' : 0,
'Region' : 'ap-guangzhou',
'SecretId' : 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******',
'Timestamp' : 1465185768,
'Version': '2017-03-12',
}
```

When developing in another programming language, you can sort these sample parameters and it will work as long as you obtain the same results.

2.2. Concatenating a Request String

This step generates a request string.

Format the request parameters sorted in the previous step into the form of "parameter name"="parameter value". For example, for the Action parameter, its parameter name is "Action" and its parameter value is "DescribeInstances", so it will become Action=DescribeInstances after formatted.

Note: The "parameter value" is the original value but not the value after URL encoding.

Then, concatenate the formatted parameters with "&". The resulting request string is as follows:

```
Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0
&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******&Timestamp=1465
185768&Version=2017-03-12
```

2.3. Concatenating the Signature Original String

This step generates a signature original string.

The signature original string consists of the following parameters:

1. HTTP method: POST and GET modes are supported, and GET is used here for the request. Please note that the method name should be in all capital letters.
2. Request server: the domain name of the request to view the list of instances (DescribeInstances) is cvm.tencentcloudapi.com. The actual request domain name varies by the module to which the API belongs. For more information, see the instructions of the specific API.
3. Request path: The request path in the current version of TencentCloud API is fixed to /.
4. Request string: the request string generated in the previous step.

The concatenation rule of the signature original string is: Request method + request host + request path + ? + request string

The concatenation result of the example is:

```
GETcvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&L
imit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WF
kmLPx3*******&Timestamp=1465185768&Version=2017-03-12
```

2.4. Generating a Signature String

This step generates a signature string.

First, use the HMAC-SHA1 algorithm to sign the **signature original string** obtained in the previous step, and then

encode the generated signature using Base64 to obtain the final signature.

The specific code is as follows with the PHP language being used as an example:

```
$secretKey = 'Gu5t9xGARNpq86cd98joQYCN3*******';
$srcStr = 'GETcvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******&Timestamp=1465185768&Version=2017-03-12';
$signStr = base64_encode(hash_hmac('sha1', $srcStr, $secretKey, true));
echo $signStr;
```

The final signature is:

```
zmmjn35mikh6pM3V7sUEuX4wyYM=
```

When developing in another programming language, you can sign and verify the original in the example above and it works as long as you get the same results.

3. Encoding a Signature String

The generated signature string cannot be directly used as a request parameter and must be URL encoded.

For example, if the signature string generated in the previous step is zmmjn35mikh6pM3V7sUEuX4wyYM=, the final signature string request parameter (Signature) is zmmjn35mikh6pM3V7sUEuX4wyYM%3D, which will be used to generate the final request URL.

Note: If your request method is GET, or the request method is POST and the Content-Type is application/x-www-form-urlencoded, then all the request parameter values need to be URL encoded (except the parameter key and the symbol of =) when sending the request. Non-ASCII characters need to be encoded with UTF-8 before URL encoding.

Note: The network libraries of some programming languages automatically URL encode all parameters, in which case there is no need to URL encode the signature string; otherwise, two rounds of URL encoding will cause the signature to fail.

Note: Other parameter values also need to be encoded using RFC 3986. Use %XY in percent-encoding for special characters such as Chinese characters, where "X" and "Y" are hexadecimal characters (0-9 and uppercase A-F), and using lowercase will cause an error.

4. Signature Failure

The following situational error codes for signature failure may occur. Please resolve the errors accordingly.

Error code	Error description
AuthFailure.SignatureExpire	The signature is expired
AuthFailure.SecretIdNotFound	The key does not exist
AuthFailure.SignatureFailure	Signature error
AuthFailure.TokenFailure	Token error
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type)

5. Signature Demo

When calling API 3.0, you are recommended to use the corresponding Tencent Cloud SDK 3.0 which encapsulates the signature process, enabling you to focus on only the specific APIs provided by the product when developing. See SDK Center for more information. Currently, the following programming languages are supported:

- Python
- Java
- PHP
- Go
- NodeJS
- .NET

To further explain the signing process, we will use a programming language to implement the process described above. The request domain name, API and parameter values in the sample are used here. This goal of this example is only to provide additional clarification for the signature process, please see the SDK for actual usage.

The final output URL might be: `https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******&Signature=zmmjn35mikh6pM3V7sUEuX4wyYM%3D&Timestamp=1465185768&Version=2017-03-12` .

Note: The key in the example is fictitious, and the timestamp is not the current time of the system, so if this URL is opened in the browser or called using commands such as curl, an authentication error will be returned: Signature expired. In order to get a URL that can work properly, you need to replace the SecretId and SecretKey in the example with your real credentials and use the current time of the system as the Timestamp.

Note: In the example below, even if you use the same programming language, the order of the parameters in the URL may be different for each execution. However, the order does not matter, as long as all the parameters are included in the URL and the signature is calculated correctly.

Note: The following code is only applicable to API 3.0. It cannot be directly used in other signature processes. Even with an older API, signature calculation errors may occur due to the differences in details. Please refer to the corresponding documentation.

Java

```
import java.io.UnsupportedEncodingException;
import java.net.URLEncoder;
import java.util.Random;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.xml.bind.DatatypeConverter;

public class TencentCloudAPIDemo {
private final static String CHARSET = "UTF-8";

public static String sign(String s, String key, String method) throws Exception {
Mac mac = Mac.getInstance(method);
SecretKeySpec secretKeySpec = new SecretKeySpec(key.getBytes(CHARSET), mac.getAlg
orithm());
mac.init(secretKeySpec);
byte[] hash = mac.doFinal(s.getBytes(CHARSET));
return DatatypeConverter.printBase64Binary(hash);
}

public static String getStringToSign(TreeMap<String, Object> params) {
StringBuilder s2s = new StringBuilder("GETcvm.tencentcloudapi.com/?");
// When signing, the parameters need to be sorted in lexicographical order. TreeM
ap is used here to guarantee the correct order.
for (String k : params.keySet()) {
s2s.append(k).append("=").append(params.get(k).toString()).append("&");
}
return s2s.toString().substring(0, s2s.length() - 1);
}

public static String getUrl(TreeMap<String, Object> params) throws UnsupportedEnc
odingException {
StringBuilder url = new StringBuilder("https://cvm.tencentcloudapi.com/?");
// There is no requirement for the order of the parameters in the actual request
URL.
for (String k : params.keySet()) {
```

```
// The request string needs to be URL encoded. As the Key is all in English lette
rs, only the value is URL encoded here.
url.append(k).append("=").append(URLEncoder.encode(params.get(k).toString(), CHAR
SET)).append("&");
}
return url.toString().substring(0, url.length() - 1);
}

public static void main(String[] args) throws Exception {
TreeMap<String, Object> params = new TreeMap<String, Object>(); // TreeMap enable
s automatic sorting
// A random number should be used when actually calling, for example: params.put
("Nonce", new Random().nextInt(java.lang.Integer.MAX_VALUE));
params.put("Nonce", 11886); // Common parameter
// The current time of the system should be used when actually calling, for examp
le: params.put("Timestamp", System.currentTimeMillis() / 1000);
params.put("Timestamp", 1465185768); // Common parameter
params.put("SecretId", "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"); // Common paramet
er
params.put("Action", "DescribeInstances"); // Common parameter
params.put("Version", "2017-03-12"); // Common parameter
params.put("Region", "ap-guangzhou"); // Common parameter
params.put("Limit", 20); // Business parameter
params.put("Offset", 0); // Business parameter
params.put("InstanceIds.0", "ins-09dx96dg"); // Business parameter
params.put("Signature", sign(getStringToSign(params), "Gu5t9xGARNpq86cd98joQYCN3*
******", "HmacSHA1")); // Common parameter
System.out.println(getUrl(params));
}
}
```

Python

Note: If running in a Python 2 environment, the following requests dependency package must be installed first: `pip install requests`.

```
# -*- coding: utf8 -*-
import base64
import hashlib
import hmac
import time

import requests

secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*******"
```

```
def get_string_to_sign(method, endpoint, params):
s = method + endpoint + "/?"
query_str = "&".join("%s=%s" % (k, params[k]) for k in sorted(params))
return s + query_str

def sign_str(key, s, method):
hmac_str = hmac.new(key.encode("utf8"), s.encode("utf8"), method).digest()
return base64.b64encode(hmac_str)

if __name__ == '__main__':
endpoint = "cvm.tencentcloudapi.com"
data = {
'Action' : 'DescribeInstances',
'InstanceIds.0' : 'ins-09dx96dg',
'Limit' : 20,
'Nonce' : 11886,
'Offset' : 0,
'Region' : 'ap-guangzhou',
'SecretId' : secret_id,
'Timestamp' : 1465185768, # int(time.time())
'Version': '2017-03-12'
}
s = get_string_to_sign("GET", endpoint, data)
data["Signature"] = sign_str(secret_key, s, hashlib.sha1)
print(data["Signature"])
# An actual invocation would occur here, which may incur fees after success
# resp = requests.get("https://" + endpoint, params=data)
# print(resp.url)
```

Golang

```
package main

import (
"bytes"
"crypto/hmac"
"crypto/sha1"
"encoding/base64"
"fmt"
"sort"
)

func main() {
secretId := "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
secretKey := "Gu5t9xGARNpq86cd98joQYCN3*******"
```

```
params := map[string]string{
"Nonce": "11886",
"Timestamp": "1465185768",
"Region": "ap-guangzhou",
"SecretId": secretId,
"Version": "2017-03-12",
"Action": "DescribeInstances",
"InstanceIds.0": "ins-09dx96dg",
"Limit": "20",
"Offset": "0",
}

var buf bytes.Buffer
buf.WriteString("GET")
buf.WriteString("cvm.tencentcloudapi.com")
buf.WriteString("/")
buf.WriteString("?")

// sort keys by ascii asc order
keys := make([]string, 0, len(params))
for k, _ := range params {
keys = append(keys, k)
}
sort.Strings(keys)

for i := range keys {
k := keys[i]
buf.WriteString(k)
buf.WriteString("=")
buf.WriteString(params[k])
buf.WriteString("&")
}
buf.Truncate(buf.Len() - 1)

hashed := hmac.New(sha1.New, []byte(secretKey))
hashed.Write(buf.Bytes())

fmt.Println(base64.StdEncoding.EncodeToString(hashed.Sum(nil)))
}
```

PHP

```
<?php
$secretId = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
$secretKey = "Gu5t9xGARNpq86cd98joQYCN3*******";
$param["Nonce"] = 11886;//rand();
```

```
$param["Timestamp"] = 1465185768;//time();
$param["Region"] = "ap-guangzhou";
$param["SecretId"] = $secretId;
$param["Version"] = "2017-03-12";
$param["Action"] = "DescribeInstances";
$param["InstanceIds.0"] = "ins-09dx96dg";
$param["Limit"] = 20;
$param["Offset"] = 0;

ksort($param);

$signStr = "GETcvm.tencentcloudapi.com/?";
foreach ( $param as $key => $value ) {
$signStr = $signStr . $key . "=" . $value . "&";
}
$signStr = substr($signStr, 0, -1);

$signature = base64_encode(hash_hmac("sha1", $signStr, $secretKey, true));
echo $signature.PHP_EOL;
// need to install and enable curl extension in php.ini
// $param["Signature"] = $signature;
// $url = "https://cvm.tencentcloudapi.com/?".http_build_query($param);
// echo $url.PHP_EOL;
// $ch = curl_init();
// curl_setopt($ch, CURLOPT_URL, $url);
// $output = curl_exec($ch);
// curl_close($ch);
// echo json_decode($output);
```

Ruby

```
# -*- coding: UTF-8 -*-
# require ruby>=2.3.0
require 'time'
require 'openssl'
require 'base64'

secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*******"

method = 'GET'
endpoint = 'cvm.tencentcloudapi.com'
data = {
'Action' => 'DescribeInstances',
'InstanceIds.0' => 'ins-09dx96dg',
'Limit' => 20,
```

```
'Nonce' => 11886,
'Offset' => 0,
'Region' => 'ap-guangzhou',
'SecretId' => secret_id,
'Timestamp' => 1465185768, # Time.now.to_i
'Version' => '2017-03-12',
}
sign = method + endpoint + '/?'
params = []
data.sort.each do |item|
params << "#{item[0]}=#{item[1]}"
end
sign += params.join('&')
digest = OpenSSL::Digest.new('sha1')
data['Signature'] = Base64.encode64(OpenSSL::HMAC.digest(digest, secret_key, sig
n))
puts data['Signature']

# require 'net/http'
# uri = URI('https://' + endpoint)
# uri.query = URI.encode_www_form(data)
# p uri
# res = Net::HTTP.get_response(uri)
# puts res.body
```

DotNet

```
using System;
using System.Collections.Generic;
using System.Net;
using System.Security.Cryptography;
using System.Text;

public class Application {
public static string Sign(string signKey, string secret)
{
string signRet = string.Empty;
using (HMACSHA1 mac = new HMACSHA1(Encoding.UTF8.GetBytes(signKey)))
{
byte[] hash = mac.ComputeHash(Encoding.UTF8.GetBytes(secret));
signRet = Convert.ToBase64String(hash);
}
return signRet;
}
public static string MakeSignPlainText(SortedDictionary<string, string> requestPa
rams, string requestMethod, string requestHost, string requestPath)
```

```
{
string retStr = "";
retStr += requestMethod;
retStr += requestHost;
retStr += requestPath;
retStr += "?";
string v = "";
foreach (string key in requestParams.Keys)
{
v += string.Format("{0}={1}&", key, requestParams[key]);
}
retStr += v.TrimEnd('&');
return retStr;
}

public static void Main(string[] args)
{
string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******";

string endpoint = "cvm.tencentcloudapi.com";
string region = "ap-guangzhou";
string action = "DescribeInstances";
string version = "2017-03-12";
double RequestTimestamp = 1465185768;
// long timestamp = ToTimestamp() / 1000;
// string requestTimestamp = timestamp.ToString();
Dictionary<string, string> param = new Dictionary<string, string>();
param.Add("Limit", "20");
param.Add("Offset", "0");
param.Add("InstanceIds.0", "ins-09dx96dg");
param.Add("Action", action);
param.Add("Nonce", "11886");
// param.Add("Nonce", Math.Abs(new Random().Next()).ToString());

param.Add("Timestamp", RequestTimestamp.ToString());
param.Add("Version", version);

param.Add("SecretId", SECRET_ID);
param.Add("Region", region);
SortedDictionary<string, string> headers = new SortedDictionary<string, string>(p
aram, StringComparer.Ordinal);
string sigInParam = MakeSignPlainText(headers, "GET", endpoint, "/");
Console.WriteLine(sigInParam);
string sigOutParam = Sign(SECRET_KEY, sigInParam);
```

```
Console.WriteLine("GET https://cvm.tencentcloudapi.com");
foreach (KeyValuePair<string, string> kv in headers)
{
Console.WriteLine(kv.Key + ": " + kv.Value);
}
Console.WriteLine("Signature" + ": " + WebUtility.UrlEncode(sigOutParam));
Console.WriteLine();

string result = "https://cvm.tencentcloudapi.com/?";
foreach (KeyValuePair<string, string> kv in headers)
{
result += WebUtility.UrlEncode(kv.Key) + "=" + WebUtility.UrlEncode(kv.Value) +
"&";
}
result += WebUtility.UrlEncode("Signature") + "=" + WebUtility.UrlEncode(sigOutPa
ram);
Console.WriteLine("GET " + result);
}
}
```

NodeJS

```
const crypto = require('crypto');

function get_req_url(params, endpoint){
params['Signature'] = escape(params['Signature']);
const url_strParam = sort_params(params)
return "https://" + endpoint + "/?" + url_strParam.slice(1);
}

function formatSignString(reqMethod, endpoint, path, strParam){
let strSign = reqMethod + endpoint + path + "?" + strParam.slice(1);
return strSign;
}
function sha1(secretKey, strsign){
let signMethodMap = {'HmacSHA1': "sha1"};
let hmac = crypto.createHmac(signMethodMap['HmacSHA1'], secretKey || "");
return hmac.update(Buffer.from(strsign, 'utf8')).digest('base64')
}

function sort_params(params){
let strParam = "";
let keys = Object.keys(params);
keys.sort();
for (let k in keys) {
//k = k.replace(/_/g, '.');
```

```
strParam += ("&" + keys[k] + "=" + params[keys[k]]);
}
return strParam
}

function main(){
const SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
const SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******"

const endpoint = "cvm.tencentcloudapi.com"
const Region = "ap-guangzhou"
const Version = "2017-03-12"
const Action = "DescribeInstances"
const Timestamp = 1465185768
// const Timestamp = Math.round(Date.now() / 1000)
const Nonce = 11886
//const nonce = Math.round(Math.random() * 65535)

let params = {};
params['Action'] = Action;
params['InstanceIds.0'] = 'ins-09dx96dg';
params['Limit'] = 20;
params['Offset'] = 0;
params['Nonce'] = Nonce;
params['Region'] = Region;
params['SecretId'] = SECRET_ID;
params['Timestamp'] = Timestamp;
params['Version'] = Version;

strParam = sort_params(params)

const reqMethod = "GET";
const path = "/";
strSign = formatSignString(reqMethod, endpoint, path, strParam)
console.log(strSign)
console.log("-----------------------")

params['Signature'] = sha1(SECRET_KEY, strSign)
console.log(params['Signature'])
console.log("-----------------------")

const req_url = get_req_url(params, endpoint)
console.log(params['Signature'])
console.log("-----------------------")
console.log(req_url)
}
main()
```

Responses

最終更新日：：2024-03-11 11:06:24

Response for Successful Requests

For example, when calling CAM API (version: 2017-03-12) to view the status of instances (DescribeInstancesStatus), if the request has succeeded, you may see the response as shown below:

```
{
"Response": {
"TotalCount": 0,
"InstanceStatusSet": [],
"RequestId": "b5b41468-520d-4192-b42f-595cc34b6c1c"
}
}
```

- The API will return `Response`, which contains `RequestId`, as long as it processes the request. It does not matter if the request is successful or not.
- RequestId is the unique ID of an API request. Contact us with this ID when an exception occurs.
- Except for the fixed fields, all fields are action-specified. For the definitions of action-specified fields, see the corresponding API documentation. In this example, `TotalCount` and `InstanceStatusSet` are the fields specified by the API `DescribeInstancesStatus`. 0 `TotalCount` means that the requester owns 0 CVM instance so the `InstanceStatusSet` is empty.

Response for Failed Requests

If the request has failed, you may see the response as shown below:

```
{
"Response": {
"Error": {
"Code": "AuthFailure.SignatureFailure",
"Message": "The provided credentials could not be validated. Please ensure your s
ignature is correct."
},
"RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
}
}
```

- The presence of the `Error` field indicates that the request has failed. A response for a failed request will include `Error`, `Code` and `Message` fields.
- `Code` is the code of the error that helps you identify the cause and solution. There are two types of error codes so you may find the code in either common error codes or API-specified error codes.
- Message explains the cause of the error. Note that the returned messages are subject to service updates. The information the messages provide may not be up-to-date and should not be the only source of reference.
- RequestId is the unique ID of an API request. Contact us with this ID when an exception occurs.

Common Error Codes

If there is an Error field in the response, it means that the API call failed. The Code field in Error indicates the error code. The following table lists the common error codes that all actions can return.

Error Code	Description
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type).
AuthFailure.MFAFailure	MFA failed.
AuthFailure.SecretIdNotFound	The key does not exist.
AuthFailure.SignatureExpire	Signature expired.
AuthFailure.SignatureFailure	Signature error.
AuthFailure.TokenFailure	Token error.
AuthFailure.UnauthorizedOperation	The request does not have CAM authorization.
DryRunOperation	DryRun Operation. It means that the request would have succeeded, but the DryRun parameter was used.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	The API does not exist.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	Quota limit exceeded.
MissingParameter	A parameter is missing.

NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	Resource is in use.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	Resource is unavailable.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	HTTPS request method error. Only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

Room Management APIs
SetUserBlockedByStrRoomId

最終更新日：：2024-03-11 11:06:28

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API allows an anchor, room owner, admin to mute/unmute a user. It can be used on platforms including Android, iOS, Windows, macOS, web, and WeChat Mini Program. Use this API when the room ID is a string.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: SetUserBlockedByStrRoomId.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-singapore.
SdkAppId	Yes	Integer	The application ID.
StrRoomId	Yes	String	The room ID (string).
UserId	Yes	String	The user ID.

IsMute	Yes	Integer	Whether to disable the user's audio and video. 0: Enable; 1: Disable.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Disabling the audio and video of a user (string-type room ID)

Input Example

```
https://trtc.tencentcloudapi.com/?Action=SetUserBlockedByStrRoomId
&SdkAppId=1400188366
&StrRoomId=”10006“
&UserId=“29376”
&IsMute=1
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "44e494f6-8010-4bb2-9a9d-ba5fd191353a"
}
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.RoomNotExist	The room does not exist.
FailedOperation.SdkAppIdNotExist	The application ID does not exist.
FailedOperation.UserNotExist	The user is not in the room.
InternalError	Internal error.
InvalidParameter	Parameter error.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.UserId	Invalid `UserId` .
MissingParameter	Missing parameter.
MissingParameter.AppId	`AppId` missing.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.UserId	Missing `UserId` parameter.

UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

SetUserBlocked

最終更新日：：2024-03-11 11:06:28

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to disable or enable the audio and video of a user. It can be used by an anchor, room owner, or admin to block or unblock a user. It supports platforms including Android, iOS, Windows, macOS, web, and WeChat Mini Program. Use this API if the room ID is a number.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: SetUserBlocked.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-singapore.
SdkAppId	Yes	Integer	The application ID.
RoomId	Yes	Integer	The room ID (number).
UserId	Yes	String	The user ID.
IsMute	Yes	Integer	Whether to disable the user’s audio and video. 0: Enable; 1: Disable.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Disabling the audio and video of a user

Input Example

```
https://trtc.tencentcloudapi.com/?Action=SetUserBlocked
&SdkAppId=1400188366
&RoomId=10006
&UserId=29376
&IsMute=1
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "44e494f6-8010-4bb2-9a9d-ba5fd191353a"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.RoomNotExist	The room does not exist.
FailedOperation.SdkAppIdNotExist	The application ID does not exist.
FailedOperation.UserNotExist	The user is not in the room.
InternalError	Internal error.
InternalError.UserNotExist	The user is not in the room.
InvalidParameter	Parameter error.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.UserId	Invalid `UserId` .
InvalidParameterValue.RoomId	Invalid RoomId.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

RemoveUser

最終更新日：：2024-03-11 11:06:29

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to remove a user from a room. It is applicable to scenarios where the anchor, room owner, or admin wants to kick out a user. It supports all platforms. For Android, iOS, Windows, and macOS, the TRTC SDK needs to be upgraded to v6.6 or above.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: RemoveUser.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-singapore.
SdkAppId	Yes	Integer	`SDKAppId` of TRTC.
RoomId	Yes	Integer	Room number.
UserIds.N	Yes	Array of String	List of up to 10 users to be removed.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Removing users from a room

This example shows you how to remove users `test1` and `test2` from room `1234`.

Input Example

```
https://trtc.tencentcloudapi.com/?Action=RemoveUser
&SdkAppId=1400000001
&RoomId=1234
&UserIds.0=test1
&UserIds.1=test2
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "eac6b301-a322-493a-8e36-83b295459397"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.RoomNotExist	The room does not exist.
InternalError	Internal error.
InternalError.GetRoomCacheIpError	Failed to query the room.
InternalError.GetRoomFromCacheError	Failed to get room information.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.UserIds	`UserIds` is incorrect.
InvalidParameterValue.RoomId	Invalid RoomId.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.UserIds	`UserIds` is missing.
UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

DismissRoom

最終更新日：：2024-03-11 11:06:30

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to remove all users from a room and dismiss the room. It supports all platforms. For Android, iOS, Windows, and macOS, the TRTC SDK needs to be upgraded to v6.6 or above.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DismissRoom.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-singapore.
SdkAppId	Yes	Integer	`SDKAppId` of TRTC.
RoomId	Yes	Integer	Room number.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Closing a room

This example shows you how to close room `1234` .

Input Example

```
https://trtc.tencentcloudapi.com/?Action=DismissRoom
&SdkAppId=1400000001
&RoomId=1234
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "eac6b301-a322-493a-8e36-83b295459397"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET

- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.RoomNotExist	The room does not exist.
InternalError	Internal error.
InternalError.GetRoomCacheIpError	Failed to query the room.
InternalError.GetRoomFromCacheError	Failed to get room information.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameterValue.RoomId	Invalid RoomId.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

RemoveUserByStrRoomId

最終更新日：：2024-03-11 11:06:29

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to remove a user from a room. It allows the anchor, room owner, or admin to kick out a user, and works on all platforms. For Android, iOS, Windows, and macOS, you need to update the TRTC SDK to version 6.6 or above.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: RemoveUserByStrRoomId.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-singapore.
SdkAppId	Yes	Integer	`SDKAppId` of TRTC
RoomId	Yes	String	Room ID
UserIds.N	Yes	Array of	List of up to 10 users to be removed

		String	

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Removing users from a room

This example shows you how to remove users `test1` and `test2` from room `abcd`.

Input Example

```
https://trtc.tencentcloudapi.com/?Action=RemoveUserByStrRoomId
&SdkAppId=1400000001
&RoomId=abcd
&UserIds.0=test1
&UserIds.1=test2
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "eac6b301-a322-493a-8e36-83b295459397"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.RoomNotExist	The room does not exist.
InternalError	Internal error.
InternalError.GetRoomCacheIpError	Failed to query the room.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.UserIds	`UserIds` is incorrect.
InvalidParameterValue.RoomId	Invalid RoomId.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.UserIds	`UserIds` is missing.
UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

DismissRoomByStrRoomId

最終更新日：：2024-03-11 11:06:29

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to remove all users from a room and close the room. It works on all platforms. For Android, iOS, Windows, and macOS, you need to update the TRTC SDK to version 6.6 or above.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DismissRoomByStrRoomId.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-singapore.
SdkAppId	Yes	Integer	`SDKAppId` of TRTC
RoomId	Yes	String	Room ID

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Closing a room

This example shows you how to close room `abcd` .

Input Example

```
https://trtc.tencentcloudapi.com/?Action=DismissRoomByStrRoomId
&SdkAppId=1400000001
&RoomId=abcd
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "eac6b301-a322-493a-8e36-83b295459397"
}
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js

- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.RoomNotExist	The room does not exist.
InternalError	Internal error.
InternalError.GetRoomCacheIpError	Failed to query the room.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameterValue.RoomId	Invalid RoomId.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

Call Quality Monitoring APIs
DescribeRoomInfo

最終更新日：：2024-03-11 11:06:35

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API (the old `DescribeRoomInformation`) is used to query the rooms of an application (`SDKAppID`) in the last 14 days. Up to 100 records can be returned per call (10 are returned by default).
Note:

1. You can use this API to query historical data or for reconciliation purposes, but we do not recommend you use it for crucial business logic.
2. If you need to call this API, please upgrade the monitoring dashboard version to "Standard". For more details, please refer to: https://trtc.io/document/54481

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeRoomInfo.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-singapore, na-toronto.

SdkAppId	Yes	Integer	The application ID, such as `1400xxxxxx`.
StartTime	Yes	Integer	The start time, which is a Unix timestamp (seconds) in local time, such as `1590065777`. Note: Only data in the last 14 days can be queried.
EndTime	Yes	Integer	The end time, which is a Unix timestamp (seconds) in local time, such as `1590065877`. Note: The end and start time cannot be more than 24 hours apart.
RoomId	No	String	The room ID, such as `223`.
PageNumber	No	Integer	The page number. The default is 0. Note: If `PageNumber` or `PageSize` is not specified, 10 records will be returned.
PageSize	No	Integer	The number of records per page. The default is `10`. Value range: 1-100.

3. Output Parameters

Parameter Name	Type	Description
Total	Integer	The number of records returned.
RoomList	Array of RoomState	The room information.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the room list of an application (`SDKAppID`)

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
```

```
X-TC-Action: DescribeRoomInfo
<Common request parameters>

{
"StartTime": 1590065777,
"SdkAppId": 1400353843,
"EndTime": 1590065877,
"PageNumber": 0,
"PageSize": 10
}
```

Output Example

```
{
"Response": {
"Total": 10,
"RoomList": [
{
"CommId": "1400188366_563398783_1587959355",
"RoomString": "113a730673fee2d86e93e26cddb25b7d",
"CreateTime": 1587959355,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "mixer_113a730673fee2d86e93e26cddb25b7d"
},
{
"CommId": "1400188366_3791597063_1587959341",
"RoomString": "4724f5b26c36bd53ea139e7e1c3dea1e",
"CreateTime": 1587959341,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "mixer_4724f5b26c36bd53ea139e7e1c3dea1e"
},
{
"CommId": "1400188366_15343445_1587731480",
"RoomString": "ae4e2ebc3a71d5b151efca3e1dbe32e9",
"CreateTime": 1587731480,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "mixer_ae4e2ebc3a71d5b151efca3e1dbe32e9"
},
{
"CommId": "1400188366_1100067693_1587730962",
"RoomString": "f83dec1f40adaf92117b62d6f9e7e0b4",
"CreateTime": 1587730962,
"DestroyTime": 1588040628,
```

```
"IsFinished": false,
"UserId": "mixer_f83dec1f40adaf92117b62d6f9e7e0b4"
},
{
"CommId": "1400188366_2420034035_1587723604",
"RoomString": "76f067dfad1044171dad37bf65b1cf4b",
"CreateTime": 1587723604,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "mixer_76f067dfad1044171dad37bf65b1cf4b"
},
{
"CommId": "1400188366_2420034035_1587713998",
"RoomString": "76f067dfad1044171dad37bf65b1cf4b",
"CreateTime": 1587713998,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "mixer_76f067dfad1044171dad37bf65b1cf4b"
},
{
"CommId": "1400188366_3501_1586952940",
"RoomString": "3501",
"CreateTime": 1586952940,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "yuting"
},
{
"CommId": "1400188366_3015068783_1586952940",
"RoomString": "7651c9da1253981c8b842bcdcad11c3e",
"CreateTime": 1586952940,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "7651c9da1253981c8b842bcdcad11c3e"
},
{
"CommId": "1400188366_3501_1586952865",
"RoomString": "3501",
"CreateTime": 1586952865,
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "yuting"
},
{
"CommId": "1400188366_3015068783_1586952865",
"RoomString": "7651c9da1253981c8b842bcdcad11c3e",
"CreateTime": 1586952865,
```

```
"DestroyTime": 1588040628,
"IsFinished": false,
"UserId": "7651c9da1253981c8b842bcdcad11c3e"
}
],
"RequestId": "83ca6fdd-cf4c-46a9-a577-74c3497ad3fa"
}
}
```


5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InternalError	Internal error.
InternalError.DBError	An error occurred while querying the database.
InternalError.EsQueryError	An error occurred during an ES query.
InternalError.HttpParaseFalied	Failed to parse the HTTP request.

InternalError.InterfaceErr	API error.
InternalError.MethodErr	Unsupported method.
InvalidParameter.BodyParamsError	Failed to parse body parameters.
InvalidParameter.EndTs	Invalid `EndTs`.
InvalidParameter.PageNumber	Invalid `PageNumber`.
InvalidParameter.PageSize	Invalid `PageSize`.
InvalidParameter.PageSizeOversize	The value of `PageSize` exceeds 100.
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.SdkAppid	Inoperable `SdkAppid`.
InvalidParameter.StartTimeOversize	The query start time exceeds the range allowed by the current dashboard edition. For details, see https://www.tencentcloud.com/document/product/647/81331?from_cn_redirect=1
InvalidParameter.StartTs	Invalid `StartTs`.
InvalidParameter.StartTsOversize	The start time for query exceeded the limit.
InvalidParameter.UrlParamsError	Failed to parse URL parameters.
InvalidParameter.UserId	Invalid `UserId`.
MissingParameter.CommIdOrSdkAppId	`SdkAppId` or `CommID` missing.
MissingParameter.EndTs	`endTS_s` is missing.
MissingParameter.RoomNum	`RoomNum` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.StartTs	`startTS_s` is missing.

DescribeUserEvent

最終更新日：：2024-03-11 11:06:34

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API (the old `DescribeDetailEvent`) is used to query the events of a call in the last 14 days, including user entry and exit, turning the camera on/off, etc.

Note:

1. You can use this API to query historical data or for reconciliation purposes, but we do not recommend you use it for crucial business logic.
2. If you need to call this API, please upgrade the monitoring dashboard version to "Standard". For more details, please refer to: https://www.tencentcloud.com/document/product/647/54481.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeUserEvent.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-singapore, na-toronto.

Parameter Name	Required	Type	Description
CommId	Yes	String	The unique ID of a call, whose format is `SdkAppId_CreateTime`, such as `1400xxxxxx_218695_1590065777`. `createTime` is the UNIX timestamp (seconds) when the room was created. Its value can be obtained using the DescribeRoomInfo API.
StartTime	Yes	Integer	The start time, which is a Unix timestamp (seconds) in local time, such as `1590065777`. Note: Only data in the last 14 days can be queried.
EndTime	Yes	Integer	The end time, which is a Unix timestamp (seconds) in local time, such as `1590065877`. Note: If you pass in an end time later than the room end time, the room end time will be used.
UserId	Yes	String	The user ID.
RoomId	Yes	String	The room ID, such as `223`.
SdkAppId	Yes	Integer	The application ID, such as `1400xxxxxx`.

3. Output Parameters

Parameter Name	Type	Description
Data	Array of EventList	The event list. An empty array will be returned if no data is obtained.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the events during a call

This example shows you how to query the events during a call, including user entry and exit, turning the camera on/off, etc.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeUserEvent
<Common request parameters>

{
"StartTime": 1590065777,
"EndTime": 1590065877,
"CommId": "1400188366_218695_1590065777",
"UserId": "user_2045351",
"SdkAppId": 1400353843,
"RoomId": "1400"
}
```

Output Example

```
{
"Response": {
"Data": [
{
"Content": [
{
"Type": 0,
"Time": 1589975272790,
"EventId": 32793,
"ParamOne": -1,
"ParamTwo": -1
}
],
"PeerId": "hyder11"
},
{
"Content": [
{
"Type": 0,
"Time": 1589975212877,
"EventId": 32793,
"ParamOne": -1,
"ParamTwo": -1
}
],
"PeerId": "user_20453511"
},
```

```
{
"Content": [
{
"Type": 0,
"Time": 1589975202782,
"EventId": 32769,
"ParamOne": -1,
"ParamTwo": -1
},
{
"Type": 0,
"Time": 1589975202782,
"EventId": 32791,
"ParamOne": -1,
"ParamTwo": -1
},
{
"Type": 0,
"Time": 1589975202782,
"EventId": 32768,
"ParamOne": -1,
"ParamTwo": -1
},
{
"Type": 0,
"Time": 1589975202782,
"EventId": 32788,
"ParamOne": -1,
"ParamTwo": -1
},
{
"Type": 0,
"Time": 1589975202782,
"EventId": 32793,
"ParamOne": -1,
"ParamTwo": -1
}
],
"PeerId": "user_66319581"
}
],
"RequestId": "093bffd3-9d27-45ca-8410-c61c0e4cdcb8"
}
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InternalError	Internal error.
InternalError.EsQueryError	An error occurred during an ES query.
InternalError.HttpParaseFalied	Failed to parse the HTTP request.
InternalError.InterfaceErr	API error.
InternalError.MethodErr	Unsupported method.
InvalidParameter	Parameter error.
InvalidParameter.BodyParamsError	Failed to parse body parameters.
InvalidParameter.EndTs	Invalid `EndTs`.
InvalidParameter.SdkAppid	Inoperable `SdkAppid`.

Error Code	Description
InvalidParameter.StartTs	Invalid `StartTs` .
InvalidParameter.StartTsOversize	The start time for query exceeded the limit.
InvalidParameter.UrlParamsError	Failed to parse URL parameters.
InvalidParameter.UserId	Invalid `UserId` .
MissingParameter	Missing parameter.
MissingParameter.AppId	`AppId` missing.
MissingParameter.CommId	`CommId` is missing.
MissingParameter.CommIdOrSdkAppId	`SdkAppId` or `CommID` missing.
MissingParameter.EndTs	`endTS_s` is missing.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.StartTs	`startTS_s` is missing.
MissingParameter.UserId	Missing `UserId` parameter.

DescribeCallDetailInfo

最終更新日：：2024-03-11 11:06:35

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API (the old `DescribeCallDetail`) is used to query the user list and call quality data of a specified time range in the last 14 days. If `DataType` is not null, the data of up to six users during a period of up to one hour can be queried (the period can start and end on different days). If `DataType` is null, the data of up to 100 users can be returned per page (the value of `PageSize` cannot exceed 100). Six users are queried by default. The period queried cannot exceed four hours. This API is used to query call quality and is not recommended for billing purposes.
Note:

1. You can use this API to query historical data or for reconciliation purposes, but we do not recommend you use it for crucial business logic.
2. If you need to call this API, please upgrade the monitoring dashboard version to "Standard". For more details, please refer to: https://www.tencentcloud.com/document/product/647/54481.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeCallDetailInfo.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions

			supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-singapore, na-toronto.
CommId	Yes	String	The unique ID of a call, whose format is `SdkAppId_CreateTime`, such as `1400xxxxxx_218695_1590065777`. `createTime` is the UNIX timestamp (seconds) when the room was created. Its value can be obtained using the DescribeRoomInfo API.
StartTime	Yes	Integer	The start time, which is a Unix timestamp (seconds) in local time, such as `1590065777`. Note: Only data in the last 14 days can be queried.
EndTime	Yes	Integer	The end time, which is a Unix timestamp (seconds) in local time, such as `1590065877`. Note: If `DataType` is not null, the end time and start time cannot be more than one hour apart; if `DataType` is null, the end time and start time cannot be more than four hours apart.
SdkAppId	Yes	Integer	The application ID, such as `1400xxxxxx`.
UserIds.N	No	Array of String	The users to query. If you do not specify this, the data of six users will be returned.
DataType.N	No	Array of String	The metrics to query. If you do not specify this, only the user list will be returned. If you pass in `all`, all metrics will be returned. `appCpu`: The CPU utilization of the application. `sysCpu`: The CPU utilization of the system. `aBit`: The upstream/downstream audio bitrate (bps). `aBlock`: The audio stutter duration (ms). `bigvBit`: The upstream/downstream video bitrate (bps). `bigvCapFps`: The frame rate for capturing videos. `bigvEncFps`: The frame rate for sending videos. `bigvDecFps`: The rendering frame rate. `bigvBlock`: The video stutter duration (ms). `aLoss`: The upstream/downstream audio packet loss. `bigvLoss`: The upstream/downstream video packet loss. `bigvWidth`: The upstream/downstream resolution (width). `bigvHeight`: The upstream/downstream resolution (height).
PageNumber	No	Integer	The page number. The default is 0. Note: If `PageNumber` or `PageSize` is not specified, six records will be returned.
PageSize	No	Integer	The number of records per page. The default is `6`. Value range: 1-100.

			Note: If `DataType` is not null, the length of the array `UserIds` and the value of `PageSize` cannot exceed `6`. If `DataType` is null, the length of the array `UserIds` and the value of `PageSize` cannot exceed `100`.

3. Output Parameters

Parameter Name	Type	Description
Total	Integer	The number of records returned.
UserList	Array of UserInformation	The user information. Note: This field may return null, indicating that no valid values can be obtained.
Data	Array of QualityData	The call quality data. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the user list and call metrics

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeCallDetailInfo
<Common request parameters>

{
"DataType": [
"bigvCapFps"
],
"CommId": "1400188366_218695_1590065777",
"EndTime": 1590065877,
```

```
"SdkAppId": 1400188366,
"StartTime": 1590065777
}
```

Output Example


```
{
"Response": {
"Total": 1,
"UserList": [
{
"RoomStr": "218695",
"UserId": "1716",
"JoinTs": 1590065777,
"LeaveTs": 1590067658,
"Finished": true,
"DeviceType": "",
"SdkVersion": "4.3.14",
"ClientIp": "10.4.1.13"
}
],
"Data": [
{
"Content": [
{
"Time": 1590065779,
"Value": 0
},
{
"Time": 1590065781,
"Value": 0
},
{
"Time": 1590065783,
"Value": 0
},
{
"Time": 1590065785,
"Value": 0
},
{
"Time": 1590065787,
"Value": 0
},
{
"Time": 1590065789,
```

```
"Value": 0
}
],
"PeerId": "",
"UserId": "1716",
"DataType": "bigvCapFps"
}
],
"RequestId": "2e12e365-43e8-4efd-902d-906303e2ee4a"
}
}
```


5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InternalError	Internal error.
InternalError.DBError	An error occurred while querying the database.

InternalError.EsQueryError	An error occurred during an ES query.
InternalError.HttpParaseFalied	Failed to parse the HTTP request.
InternalError.InterfaceErr	API error.
InternalError.MethodErr	Unsupported method.
InvalidParameter	Parameter error.
InvalidParameter.BodyParamsError	Failed to parse body parameters.
InvalidParameter.EncodeParams	Invalid `EncodeParams` .
InvalidParameter.PageNumber	Invalid `PageNumber` .
InvalidParameter.PageSize	Invalid `PageSize` .
InvalidParameter.PageSizeOversize	The value of `PageSize` exceeds 100.
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.SdkAppid	Inoperable `SdkAppid` .
InvalidParameter.StartTimeOversize	The query start time exceeds the range allowed by the current dashboard edition. For details, see https://www.tencentcloud.com/document/product/647/81331?from_cn_redirect=1
InvalidParameter.StartTs	Invalid `StartTs` .
InvalidParameter.StartTsOversize	The start time for query exceeded the limit.
InvalidParameter.UserIdsMorethanSix	The number of users exceeds 6.
MissingParameter	Missing parameter.
MissingParameter.CommId	`CommId` is missing.
MissingParameter.CommIdOrSdkAppId	`SdkAppId` or `CommID` missing.
MissingParameter.EndTs	`endTS_s` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.StartTs	`startTS_s` is missing.

DescribeUserInfo

最終更新日：：2024-03-11 11:06:34

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API (the old `DescribeUserInformation`) is used to query the user list of a specified time range (up to four hours) in the last 14 days. The data of up to 100 users can be returned per page (six are returned by default).
Note:

1. You can use this API to query historical data or for reconciliation purposes, but we do not recommend you use it for crucial business logic.
2. If you need to call this API, please upgrade the monitoring dashboard version to "Standard". For more details, please refer to: https://www.tencentcloud.com/document/product/647/54481.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeUserInfo.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-singapore, na-toronto.
CommId	Yes	String	The unique ID of a call, whose format is `SdkAppId_CreateTime`,

			such as `1400xxxxxx_218695_1590065777`. `createTime` is the UNIX timestamp (seconds) when the room was created. Its value can be obtained using the DescribeRoomInfo API.
StartTime	Yes	Integer	The start time, which is a Unix timestamp (seconds) in local time, such as `1590065777`. Note: Only data in the last 14 days can be queried.
EndTime	Yes	Integer	The end time, which is a Unix timestamp (seconds) in local time, such as `1590065877`. Note: The end and start time cannot be more than four hours apart.
SdkAppId	Yes	Integer	The application ID, such as `1400xxxxxx`.
UserIds.N	No	Array of String	The users to query. If you do not specify this, the information of six users will be returned. Array length: 1-100.
PageNumber	No	Integer	The page number. The default is 0. Note: If `PageNumber` or `PageSize` is not specified, six records will be returned.
PageSize	No	Integer	The number of records per page. The default is `6`. Array length: 1-100.

3. Output Parameters

Parameter Name	Type	Description
Total	Integer	The number of records returned.
UserList	Array of UserInformation	The user information. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying users and call metrics

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeUserInfo
<Common request parameters>

{
"StartTime": 1590065777,
"CommId": "1400188366_218695_1590065777",
"UserIds": [
"user1_54816741",
"user2_2107025"
],
"SdkAppId": 1400188366,
"EndTime": 1590065877
}
```

Output Example

```
{
"Response": {
"Total": 1,
"UserList": [
{
"RoomStr": "218695",
"UserId": "user1_54816741",
"JoinTs": 1590065777,
"LeaveTs": 1590067658,
"Finished": true,
"DeviceType": "",
"SdkVersion": "4.3.14",
"ClientIp": "10.4.1.13"
},
{
"RoomStr": "218695",
"UserId": "user2_2107025",
"JoinTs": 1590065700,
"LeaveTs": 1590067693,
"Finished": true,
"DeviceType": "",
"SdkVersion": "4.3.14",
"ClientIp": "10.4.1.13"
```

```
}
],
"RequestId": "2e12e365-43e8-4efd-902d-906303e2ee4a"
}
}
```


5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InternalError	Internal error.
InternalError.DBError	An error occurred while querying the database.
InternalError.HttpParaseFalied	Failed to parse the HTTP request.
InternalError.InterfaceErr	API error.
InternalError.MethodErr	Unsupported method.

InvalidParameter	Parameter error.
InvalidParameter.BodyParamsError	Failed to parse body parameters.
InvalidParameter.EncodeParams	Invalid `EncodeParams` .
InvalidParameter.PageNumber	Invalid `PageNumber` .
InvalidParameter.PageSize	Invalid `PageSize` .
InvalidParameter.PageSizeOversize	The value of `PageSize` exceeds 100.
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.SdkAppid	Inoperable `SdkAppid` .
InvalidParameter.StartTimeOversize	The query start time exceeds the range allowed by the current dashboard edition. For details, see https://www.tencentcloud.com/document/product/647/81331?from_cn_redirect=1
InvalidParameter.StartTs	Invalid `StartTs` .
InvalidParameter.StartTsOversize	The start time for query exceeded the limit.
InvalidParameter.UserIdsMorethanSix	The number of users exceeds 6.
MissingParameter	Missing parameter.
MissingParameter.CommId	`CommId` is missing.
MissingParameter.CommIdOrSdkAppId	`SdkAppId` or `CommID` missing.
MissingParameter.EndTs	`endTS_s` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.StartTs	`startTS_s` is missing.

DescribeScaleInfo

最終更新日：：2024-03-11 11:06:35

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API (the old `DescribeHistoryScale`) is used to query the daily number of rooms and users of an application (`SDKAppID`) in the last 14 days. Data for the current day cannot be queried.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeScaleInfo.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-singapore, na-toronto.
SdkAppId	Yes	Integer	The application ID, such as `1400xxxxxx`.
StartTime	Yes	Integer	The start time, which is a Unix timestamp (seconds) in local time, such as `1590065777`. Note: Only data in the last 14 days can be queried.
EndTime	Yes	Integer	The end time, which is a Unix timestamp (seconds) in local time, such as `1590065877`. The end time and start time should preferably be more

			than 24 hours apart. Note: Data is collected on a daily basis. To query the data of a day, make sure the end time is later than 00:00 on that day. Otherwise, no data will be returned. For example, to query the data on the 20th, the end time must be later than 00:00 on the 20th.

3. Output Parameters

Parameter Name	Type	Description
Total	Integer	The number of records returned.
ScaleList	Array of ScaleInfomation	The returned data. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the number of rooms and users

This example shows you how to query the number of rooms and users.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeScaleInfo
<Common request parameters>

{
"StartTime": 1590065777,
"SdkAppId": 1400353843,
"EndTime": 1590065877
}
```

Output Example

```
{
"Response": {
"Total": 4,
"ScaleList": [
{
"Time": 1587830400,
"RoomNumbers": 130644,
"UserNumber": 2111978,
"UserCount": 7004243
},
{
"Time": 1587744000,
"RoomNumbers": 79241,
"UserNumber": 781494,
"UserCount": 2968232
},
{
"Time": 1587657600,
"RoomNumbers": 180341,
"UserNumber": 3047931,
"UserCount": 10839565
},
{
"Time": 1587571200,
"RoomNumbers": 185469,
"UserNumber": 3267726,
"UserCount": 11656700
}
],
"RequestId": "70259dd1-c935-4a31-8576-f4daadd942ef"
}
}
```


5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InternalError	Internal error.
InternalError.DBError	An error occurred while querying the database.
InternalError.HttpParaseFalied	Failed to parse the HTTP request.
InternalError.InterfaceErr	API error.
InternalError.MethodErr	Unsupported method.
InvalidParameter.BodyParamsError	Failed to parse body parameters.
InvalidParameter.EndTs	Invalid `EndTs`.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
InvalidParameter.SdkAppid	Inoperable `SdkAppid`.
InvalidParameter.StartTs	Invalid `StartTs`.
InvalidParameter.StartTsOversize	The start time for query exceeded the limit.
InvalidParameter.UserIdsMorethanSix	The number of users exceeds 6.
MissingParameter.EndTs	`endTS_s` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.StartTs	`startTS_s` is missing.

Stream mixing and relay APIs
UpdatePublishCdnStream

最終更新日：：2024-03-11 11:06:27

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to change the parameters of a relaying task.
Note: For details about how to use this API, see the `StartPublishCdnStream` document.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: UpdatePublishCdnStream.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-guangzhou, ap-hongkong, ap-singapore.
SdkAppId	Yes	Integer	The SDKAppID of the TRTC room

			whose streams are relayed.
TaskId	Yes	String	The task ID.
SequenceNumber	Yes	Integer	The sequence of a request. This parameter ensures the requests to change the parameters of the same relaying task are in the correct order. It increases each time a new request is made.
WithTranscoding	Yes	Integer	Whether to transcode the streams. 0: No; 1: Yes.
AudioParams	No	McuAudioParams	Pass this parameter to change the users whose audios are mixed. If you do not pass this parameter, no changes will be made.
VideoParams	No	McuVideoParams	Pass this parameter to change video parameters other than the codec, including the video layout, background image, background color, and watermark information. This parameter is valid only if streams are transcoded. If you do not pass it, no changes will be made.
SingleSubscribeParams	No	SingleSubscribeParams	Pass this parameter to change the single stream that is relayed. This parameter is valid only if streams are not transcoded. If you do not pass this parameter, no changes will be made.
PublishCdnParams.N	No	Array of McuPublishCdnParam	Pass this parameter to change the CDNs to relay to. If you do not pass this parameter, no changes will be made.
SeiParams	No	McuSeiParams	The stream mixing SEI parameters.
FeedBackRoomParams.N	No	Array of McuFeedBackRoomParams	The information of the room to which streams are relayed.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	The task ID.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Changing the audios mixed and the video layout

This example shows you how to change a relaying task to mix the audio and video of `Trtc_User_0` and `Trtc_User_3`.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: UpdatePublishCdnStream
<Common request parameters>

{
"SdkAppId": 1400188366,
"TaskId": "-m97l2ZU7kOlV5cTRMoU6yoGp2nDYkzbJ13EC4K-4pycoZXVv+XVrNoUXQ8++8Z2PwUlAQ..",
"SequenceNumber": 20,
"WithTranscoding": 1,
"AudioParams": {
"SubscribeAudioList": [
{
"UserInfo": {
"RoomId": "48111",
"RoomIdType": 0,
"UserId": "Trtc_User_0"
}
},
{
"UserInfo": {
"RoomId": "48111",
```

```
"RoomIdType": 0,
"UserId": "Trtc_User_3"
}
}
]
},
"VideoParams": {
"LayoutParams": {
"MixLayoutMode": 4,
"MixLayoutList": [
{
"UserMediaStream": {
"UserInfo": {
"RoomId": "48111",
"RoomIdType": 0,
"UserId": "Trtc_User_3"
},
"StreamType": 0
},
"ImageWidth": 640,
"ImageHeight": 720,
"LocationX": 0,
"LocationY": 0,
"ZOrder": 0,
"RenderMode": 0
},
{
"UserMediaStream": {
"UserInfo": {
"RoomId": "48111",
"RoomIdType": 0,
"UserId": "Trtc_User_0"
},
"StreamType": 0
},
"ImageWidth": 640,
"ImageHeight": 720,
"LocationX": 640,
"LocationY": 360,
"ZOrder": 0,
"RenderMode": 0
}
]
}
}
}
```

Output Example

```
{
"Response": {
"RequestId": "71993312-6ab8-4768-9124-118e0a20c45f",
"TaskId": "xxxx"
}
}
```

Example2 Changing the relaying parameters

This example shows you how to change relaying parameters.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: UpdatePublishCdnStream
<Common request parameters>

{
"SdkAppId": 1400188366,
"TaskId": "-m97l2ZU7kOlV5cTRMoU6yoGp2nDYkzbJ13EC4K-4pycoZXVv+XVrNoUXQ8++8Z2PwUlA
Q..",
"SequenceNumber": 20,
"WithTranscoding": 1,
"PublishCdnParams": [
{
"IsTencentCdn": 1,
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/trtc_publishcdn_test2?bi
zid=3891&txSecret=23aeb6ec16fd275af0d00a447b2282f7&txTime=62635BDE"
}
]
}
```

Output Example

```
{
"Response": {
"RequestId": "71993312-6ab8-4768-9124-118e0a20c45f",
"TaskId": "xxxx"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidParameter	Parameter error.
MissingParameter	Missing parameter.
ResourceNotFound	The resource does not exist.

UnsupportedOperation	Unsupported operation.

StopPublishCdnStream

最終更新日：：2024-03-11 11:06:27

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to stop a relaying task.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: StopPublishCdnStream.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-guangzhou, ap-hongkong, ap-singapore.
SdkAppId	Yes	Integer	The SDKAppID of the TRTC room whose streams are relayed.
TaskId	Yes	String	The task ID.

3. Output Parameters

Parameter	Type	Description

Name		
TaskId	String	The task ID.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Stopping a relaying task

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: StopPublishCdnStream
<Common request parameters>

{
"SdkAppId": 1400188366,
"TaskId": "-m97l2ZU7kOlV5cTRMoU6yoGp2nDYkzbJ13EC4K-4pycoZXVv+XVrNoUXQ8++8Z2PwUlAQ.."
}
```

Output Example

```
{
"Response": {
"RequestId": "71993312-6ab8-4768-9124-118e0a20c45f",
"TaskId": "xx"
}
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation.CRUnsupportMethod	Unsupported on-cloud recording method.
InternalError	Internal error.
InvalidParameter	Parameter error.
MissingParameter	Missing parameter.
ResourceNotFound	The resource does not exist.

StartPublishCdnStream

最終更新日：：2024-03-11 11:06:28

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

In a TRTC room, there may be multiple audio and video streams concurrently active. You can use the MixTranscoding API to notify Tencent Cloud server to mix multiple video screens from the same room or multiple rooms together, and specify the position of each screen, while mixing multiple audio streams together. The final result is a single audio and video stream, which can be used for recording and live viewing. It also supports pushing this mixed audio and video stream back to the TRTC room.

The Cloud API MixTranscoding feature includes three interfaces:

1. StartPublishCdnStream: Start a MixTranscoding task. This interface will initiate a new MixTranscoding task. After the task is successfully started, a unique TaskId will be returned under the sdkappid dimension. You need to save this TaskId, as it will be required for updating and stopping the task later.
2. UpdatePublishCdnStream: Update the specified MixTranscoding task, including updating the video screen layout, updating the mixing list, updating the list of CDN addresses to be relayed, and updating the list of rooms to be pushed back.
3. StopPublishCdnStream: Stop the specified MixTranscoding task.

You can achieve the following goals through this set of interfaces:

1. Set the final video and audio quality, including video resolution, video frame rate, video bitrate, and audio quality.
2. Set the layout position of each screen. You only need to set it once. When you specify the MixTranscoding user to enter the room and send audio and video, the layout engine will automatically mix the user's screen to the specified layout position. You can also use the update interface to adjust the layout position.
3. Set multiple CDN relay target addresses. A single relay task can support up to 10 CDN relay addresses at the same time.
4. Set multiple room pushback lists. A single relay task can support up to 10 TRTC rooms for mixed stream pushback.

The following layout templates are currently supported. Dynamic layout templates (floating template, grid template, screen sharing template) only support a single TRTC room, while custom templates support mixing audio and video streams from multiple TRTC rooms. The specific descriptions are as follows:

1. Floating template: The video screen of the first user entering the room will fill the entire screen, and the video screens of other users will be arranged horizontally from the bottom left corner, displaying as small screens, with up

to 4 rows and 4 screens per row. The small screens float above the large screen. It supports up to 1 large screen and 15 small screens. If the user only sends audio, it does not occupy the layout configuration by default, but it can also be set. Each sub-screen is rendered by default using the center cropping method, and the rendering method of the sub-screen can also be set uniformly.

2. Grid template: The video screens of all users are of the same size, evenly dividing the entire screen. The more people there are, the smaller the size of each user's screen. It supports up to 16 screens. If the user only sends audio, it does not occupy the layout configuration by default, but it can also be set. Each sub-screen is rendered by default using the center cropping method, and the rendering method of the sub-screen can also be set uniformly.
3. Screen sharing template: Suitable for video conference and online education scenarios. The screen sharing (or the main speaker's camera) always occupies the large screen position on the left side of the screen. You need to explicitly set the MixTranscoding user information that occupies the large screen. Other users are arranged vertically on the right side, with up to two columns and 8 small screens per column. It supports up to 1 large screen and 15 small screens. If the uplink resolution aspect ratio is different from the screen output aspect ratio, the large screen on the left side will be scaled to maintain content integrity, while the small screens on the right side will be cropped. The rendering method of the sub-screen can also be set uniformly.
4. Custom layout template: Allows you to actively set the layout position according to your business needs. Each preset layout position supports named settings (named settings require specifying the room number and username) and unnamed settings. When a sub-screen is named, the position is reserved for the user, and the user will automatically occupy the position when entering the room and sending audio and video data. Other users will not occupy this position. When the preset layout position is not named, the layout engine will automatically fill in the order of entering the room. When the preset positions are full, no other users' screens and sounds will be mixed. Each sub-screen position supports setting placeholder images (BackgroundImageUrl). When the user does not enter the room or only sends audio data, the screen at this position can display the corresponding placeholder image.

When using the relay API, you may incur the following costs depending on the usage characteristics:
For MCU MixTranscoding fees, please refer to the documentation: Billing of MixTranscoding and Relay to CDN | Tencent Cloud.
For non-Tencent Cloud CDN relay fees, please refer to the documentation: Billing of MixTranscoding and Relay to CDN | Tencent Cloud.

Instructions for using parameters:

1. AgentParams: Each relay task will pull a robot user into the TRTC room to pull the stream. You need to set this robot user through the AgentParams.UserId parameter. This robot ID cannot conflict with the normal user ID in the room, otherwise, the relay task will be abnormally terminated due to the robot user being kicked out of the TRTC room. You can avoid this by adding a special prefix. You can control the automatic termination of the relay task by setting AgentParams.MaxIdleTime. When this parameter is set, the relay task will automatically stop when all participating MixTranscoding anchors continuously leave the TRTC room for more than MaxIdleTime duration.

Note: The relay task will not automatically stop when the participating MixTranscoding anchor only stops sending audio and video.

2. WithTranscoding: If you need to mix multiple audio and video streams into one, WithTranscoding must be set to 1.
3. AudioParams: The audio parameters and video parameters of the relay task are set separately. If you want to mix the audio of specified users, you need to explicitly set AudioParams.SubscribeAudioList. If you do not set AudioParams.SubscribeAudioList, the mixing engine will automatically mix the audio of all users in the TRTC room. If you want to mix the audio of all users in the TRTC room except for specified users, you can set the audio blacklist list through AudioParams.UnSubscribeAudioList.
4. VideoParams: If you want to mix user videos, you can set it through VideoParams. If you only want to mix audio, you do not need to set VideoParams. You can set the screen layout mode through VideoParams.LayoutParams.MixLayoutMode, including dynamic layout (1: floating layout (default), 2: screen sharing layout, 3: grid layout) and custom layout. The dynamic layout mode is automatically mixed by the layout engine according to a fixed layout, and there is no need to set VideoParams.LayoutParams.MixLayoutList. When using the floating layout and screen sharing layout, you can specify the large screen user by setting VideoParams.LayoutParams.MaxVideoUser. The custom layout mode provides you with the ability to layout screens independently, and you can specify the layout position of each user through VideoParams.LayoutParams.MixLayoutList. In each layout parameter, you can specify the layout position for the specified user by setting the UserMediaStream parameter, or you can not set the UserMediaStream, and the layout engine will automatically fill in the order of users entering the TRTC room. In addition, you can set the rendering method (RenderMode) and cropping method (CustomCrop) for each layout position.
5. VideoParams.WaterMarkList: If you want to overlay a watermark on the mixed screen, you can set it through VideoParams.WaterMarkList. It supports image watermarks and text watermarks and supports transparent channels.
6. SingleSubscribeParams: If you want to push a single stream from the TRTC room to the CDN, you can set it using the SingleSubscribeParams parameter. In this case, you need to set the WithTranscoding parameter to 0.
7. PublishCdnParams.N: If you want to push the stream to the CDN, you can set it using the PublishCdnParams.N parameter. It supports pushing to up to 10 CDN addresses at the same time. If the relay address is Tencent Cloud CDN, please set IsTencentCdn explicitly to 1; if you need to relay to a non-Tencent Cloud CDN, please contact Tencent Cloud Technical Support to enable it. Relaying to non-Tencent Cloud will incur relay fees. For fee information, please refer to the official documentation: On-Cloud Relay Billing Overview.
8. FeedBackRoomParams.N: If you want to push the mixed audio and video stream back to the TRTC room, you can set it using the FeedBackRoomParams.N parameter. It supports pushing up to 10 streams back to the TRTC room at the same time. You need to specify the TRTC room number and robot ID (UserId) for the pushback. The robot ID cannot conflict with the normal user ID, otherwise, the relay task will be abnormally terminated due to the robot user being kicked out of the TRTC room. You can avoid this by adding a special prefix.
9. SeiParams: If you want to add SEI information to the mixed audio and video stream, you can set it using the SeiParams parameter. It supports volume layout SEI and overlay relay request SEI. The content of the volume layout SEI is a fixed JSON structure, please see the SEI description in the following section of this chapter. You can

set the SEI to follow the keyframe by setting the FollowIdr parameter. The description of the volume layout SEI is as follows:

If your CDN audience needs to recognize the position of the participating MixTranscoding anchors and the volume information of the participating MixTranscoding anchors, you can use the volume layout SEI. The payload content and parameter description of the volume layout SEI are as follows:

{ "app_data":"", "canvas":{ "w":1080, "h":960 }, "regions":[{ "uid":"65949987242835883c", "zorder":2, "volume":45, "x":270, "y":480, "w":540, "h":480 }, { "uid":"659c9d8d242b328d31", "zorder":2, "volume":0, "x":0, "y":0, "w":540, "h":480 }, { "uid":"64989a82272b308c", "zorder":2, "volume":91, "x":540, "y":0, "w":540, "h":480 }], "ver":"1.0", "ts":1648544726 }

canvas: This is the width and height of the VideoEncode setting in the MixTranscoding signaling, that is, the width and height of the entire canvas of the MixTranscoding output.

regions: Contains the real mixed user ID and the corresponding sub-screen position. If the participating MixTranscoding user does not enter the TRTC room or does not turn on the video uplink, the regions will not include the user.

uid: Represents the user ID participating in MixTranscoding.

zorder: The layer of the participating MixTranscoding userid in the MixTranscoding output.

x/y: The coordinates of the sub-screen of the participating MixTranscoding userid on the canvas.

w/h: The size of the sub-screen of the participating MixTranscoding userid.

volume: Represents the volume of the MixTranscoding user, with a value range of 0-100. The larger the value, the greater the volume of the user participating in MixTranscoding.

ts: The server local second-level timestamp for outputting SEI.

ver: can be ignored.

Usage Precautions:

1. When using the Mixed Relay Interface, you need to call the Start Relay Task Interface (StartPublishCdnStream) first to get the Task ID from the response. Then, use the Task ID to update the relay task (UpdatePublishCdnStream) and stop the relay task (StopPublishCdnStream).
2. The Relay API does not support initiating Automatic Bypass Tasks configured in the TRTC Console, nor does it support Custom Stream ID bypass tasks set in the TRTC SDK room entry interface.
3. To ensure the stability of the relay link, the same relay task does not support switching between Audio only, Audio and Video, and Video only.
4. To ensure the stability of the relay link, updating video parameters (codec) and audio parameters (codec, Sample rate, bitrate, and number of channels) is not supported during the Update Video process.
5. When initiating a single stream bypass task, filling in both Audio Parameters and Video Parameters means Audio and Video bypass. If only Audio Parameters are filled in, it means Audio only bypass, and switching from Audio only to Audio and Video is not supported during the task progress. For Audio and Video bypass, the Width, Height, Fps, BitRate, and Gop in Video Parameters must be filled in according to the real upstream parameters.

6. The SequenceNumber parameter must be carried in the update request to prevent request disorder. Customers must ensure that the SequenceNumber parameter increases when updating the same task, otherwise, the mix task update will fail.
7. When calling the API, choose the region according to the following instructions: If the Application ID is 1400xxx, the region can be Beijing, Shanghai, Guangzhou, or Hong Kong. If your CDN audience is mainly overseas, please choose Hong Kong. If the Application ID is 200xxx or 400xxx, please choose Singapore.
8. Streams pushed back to the TRTC room will not participate in the mixing of other push back room tasks. If one of the following conditions is met, it can participate in the mixing of other relay CDN tasks: (1) The push stream robot is specified to participate in the mixing in the video parameters of the relay CDN task; (2) The push stream robot is specified to participate in the mixing in the audio parameters of the relay CDN task through the whitelist method; (3) The room number of the mix user participating in the relay CDN task is completely different from the room number of the mix user corresponding to the push back robot.
9. You can create a relay task before the anchor enters the room. When the relay task is finished, you need to call the stop interface actively. If you do not call the Stop Relay Task Interface, Tencent Cloud will automatically stop the mix relay task when all users participating in the mix have no data uploaded for a period of time exceeding the timeout (AgentParams.MaxIdleTime) set when starting the relay task.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: StartPublishCdnStream.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of

			regions supported by the product. This API only supports: ap-guangzhou, ap-hongkong, ap-singapore.
SdkAppId	Yes	Integer	The SDKAppID of the TRTC room whose streams are relayed.
RoomId	Yes	String	The ID of the room whose streams are relayed (the main room).
RoomIdType	Yes	Integer	The type of the `RoomId` parameter, which must be the same as the ID type of the room whose streams are relayed. 0: integer; 1: string.
AgentParams	Yes	AgentParams	The information of the relaying robot in the room.
WithTranscoding	Yes	Integer	Whether to transcode the streams. `0` : No. `1` : Yes. This parameter determines whether transcoding fees are charged. If it is `0` , streams will only be relayed, and no transcoding fees will be incurred. If it is `1` , streams will be transcoded before being relayed, and transcoding fees will be incurred.
AudioParams	No	McuAudioParams	The audio encoding parameters. Because audio is always transcoded (no fees are incurred), this parameter is required when you start a relay task.
VideoParams	No	McuVideoParams	The video encoding parameters for relaying. If you do not pass this parameter, only audio will be relayed.
SingleSubscribeParams	No	SingleSubscribeParams	The information of a single stream relayed. When you relay a single stream, set `WithTranscoding` to 0.

PublishCdnParams.N	No	Array of McuPublishCdnParam	The information of the CDNs to relay to. You need to specify at least one between this parameter and `FeedBackRoomParams.N` .
SeiParams	No	McuSeiParams	The stream mixing SEI parameters.
FeedBackRoomParams.N	No	Array of McuFeedBackRoomParams	The information of the room to which streams are relayed. Between this parameter and `PublishCdnParams` , you must specify at least one. Please note that relaying to a TRTC room is only supported in some SDK versions. For details, please contact technical support.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	The task ID, which is generated by the Tencent Cloud server. You need to pass in the task ID when making a request to update or stop a relaying task.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Starting a task to mix streams and relay the mixed stream

This example shows you how to start a stream mixing and relay task.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: StartPublishCdnStream
```

```
<Common request parameters>

{
"AudioParams": {
"SubscribeAudioList": [
{
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_0"
}
},
{
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_1"
}
},
{
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_2"
}
},
{
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_3"
}
}
],
"AudioEncode": {
"SampleRate": 48000,
"Codec": 0,
"BitRate": 64,
"Channel": 2
}
},
"AgentParams": {
"MaxIdleTime": 30,
"UserSig": "eJw1zV8LgjAUBfCvInsO2dStGfQSQUb2pFJvsnLJJZW1LekPffdc6X08v8O5b5Snmd9Lj
RYeCnyMZt4vgUp2Fi7wB6vtuVRC207q0kpjSzIVTXUVSkE11EiEMeE8ZGw0*VCg5SCcDeRuBAutiwkLeR
RwOo*nMajduy5O*gIaus9qel9vX*lJbHJmyDMxuKFFI27tsT*I1S6pl*jzBb*IOTE_",
"UserId": "trtc_partner_test_1"
```

```
},
"VideoParams": {
"VideoEncode": {
"Height": 720,
"Width": 1280,
"Fps": 15,
"BitRate": 512,
"Gop": 2
},
"LayoutParams": {
"PureAudioHoldPlaceMode": 0,
"MixLayoutMode": 4,
"MixLayoutList": [
{
"LocationX": 0,
"LocationY": 0,
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_0"
}
},
"ZOrder": 0,
"ImageHeight": 360,
"ImageWidth": 640,
"RenderMode": 0
},
{
"LocationX": 640,
"LocationY": 0,
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_1"
}
},
"ZOrder": 0,
"ImageHeight": 360,
"ImageWidth": 640,
"RenderMode": 0
},
{
"LocationX": 0,
```

```
"LocationY": 360,
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_2"
}
},
"ZOrder": 0,
"ImageHeight": 360,
"ImageWidth": 640,
"RenderMode": 0
},
{
"LocationX": 640,
"LocationY": 360,
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_3"
}
},
"ZOrder": 0,
"ImageHeight": 360,
"ImageWidth": 640,
"RenderMode": 0
}
]
},
"BackGroundColor": "0xFF0000",
"WaterMarkList": [
{
"WaterMarkType": 0,
"WaterMarkImage": {
"LocationX": 64,
"LocationY": 64,
"WaterMarkHeight": 64,
"WaterMarkWidth": 64,
"WaterMarkUrl": "https://xkt-course-1304449343.cos.ap-beijing.myqcloud.com/test/mark/37f9eb62-ca72-430e-bfca-e700b59b20e0.png",
"ZOrder": 3
}
}
]
```

```
},
"PublishCdnParams": [
{
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/trtc_publishcdn_test1",
"IsTencentCdn": 0
},
{
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/trtc_publishcdn_test2",
"IsTencentCdn": 0
}
],
"RoomIdType": 0,
"SdkAppId": 1400188366,
"WithTranscoding": 1,
"RoomId": "195044"
}
```

Output Example

```
{
"Response": {
"TaskId": "-m97l2ZU7vxyBSmXYsRx1Xy9Kf4bVVfbbhSKC4K-4pycoZWKv542xbi139uTvGt1zAHoA
Q..",
"RequestId": "b934c535-8d82-4f52-bd52-a1cbb043c4be"
}
}
```

Example2 Starting a task to relay the audio and video of a stream

This example shows you how to start a task to relay the audio and video of a stream.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: StartPublishCdnStream
<Common request parameters>

{
"AudioParams": {
"AudioEncode": {
"SampleRate": 48000,
"Codec": 0,
"BitRate": 64,
"Channel": 2
```

```
}
},
"AgentParams": {
"MaxIdleTime": 30,
"UserSig": "eJw1zV8LgjAUBfCvInsO2dStGfQSQUb2pFJvsnLJJZW1LekPffdc6X08v8O5b5Snmd9Lj
RYeCnyMZt4vgUp2Fi7wB6vtuVRC207q0kpjSzIVTXUVSkE11EiEMeE8ZGw0*VCg5SCcDeRuBAutiwkLeR
RwOo*nMajduy5O*gIaus9qel9vX*lJbHJmyDMxuKFFI27tsT*I1S6pl*jzBb*IOTE_",
"UserId": "trtc_partner_test_1"
},
"VideoParams": {
"VideoEncode": {
"Height": 720,
"Width": 1280,
"Fps": 15,
"BitRate": 512,
"Gop": 2
}
},
"SingleSubscribeParams": {
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_0"
}
}
},
"PublishCdnParams": [
{
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/trtc_publishcdn_test1",
"IsTencentCdn": 0
}
],
"RoomIdType": 0,
"SdkAppId": 1400188366,
"WithTranscoding": 0,
"RoomId": "195044"
}
```


Output Example


```
{
"Response": {
"TaskId": "-m97l2ZU7tq6nEsHR89259B8aCDblqnbGhWKC4K-4pycoZWpyHnld1jC9aCD+EU7V8WRA
Q..",
```

```
"RequestId": "f23d95bf-ddaf-4d0c-86c0-6bf50c74c0a0"
}
}
```

Example3 Starting a task to relay only the audio of a stream

This example shows you how to start a task to relay only the audio of a stream.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: StartPublishCdnStream
<Common request parameters>

{
"AudioParams": {
"AudioEncode": {
"SampleRate": 48000,
"Codec": 0,
"BitRate": 64,
"Channel": 2
}
},
"AgentParams": {
"MaxIdleTime": 30,
"UserSig": "eJw1zV8LgjAUBfCvInsO2dStGfQSQUb2pFJvsnLJJZW1LekPffdc6X08v8O5b5Snmd9Lj
RYeCnyMZt4vgUp2Fi7wB6vtuVRC207q0kpjSzIVTXUVSkE11EiEMeE8ZGw0*VCg5SCcDeRuBAutiwkLeR
RwOo*nMajduy5O*gIaus9qel9vX*lJbHJmyDMxuKFFI27tsT*I1S6pl*jzBb*IOTE_",
"UserId": "trtc_partner_test_1"
},
"SingleSubscribeParams": {
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "195044",
"UserId": "Trtc_User_0"
}
}
},
"PublishCdnParams": [
{
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/trtc_publishcdn_test1",
"IsTencentCdn": 0
```

```
}
],
"RoomIdType": 0,
"SdkAppId": 1400188366,
"WithTranscoding": 0,
"RoomId": "195044"
}
```

Output Example

```
{
"Response": {
"TaskId": "-m97l2ZU7r57nZBesMa84KgzxhH0OBbbCRaKC4K-4pycoZW7yFPtusNuZOen1Ca0qtQQA
Q..",
"RequestId": "ef089f8b-d0d1-4131-894d-4edd68d61605"
}
}
```

Example4 Starting a task to relay the audios and videos in a room and pass through the SEI messages. The audios are mixed before relaying.

This example shows you how to start a task to relay the audios (after mixing) and videos in a room and pass through the SEI messages.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: StartPublishCdnStream
<Common request parameters>

{
"AudioParams": {
"SubscribeAudioList": [
{
"UserInfo": {
"RoomIdType": 0,
"RoomId": "295066",
"UserId": "57906"
}
}
],
"AudioEncode": {
"SampleRate": 48000,
```

```
"Codec": 0,
"BitRate": 64,
"Channel": 2
}
},
"AgentParams": {
"MaxIdleTime": 10,
"UserSig": "eJw1zV8LgjAUBfCvInsO2dStGfQSQUb2pFJvsnLJJZW1LekPffdc6X08v8O5b5Snmd9Lj
RYeCnyMZt4vgUp2Fi7wB6vtuVRC207q0kpjSzIVTXUVSkE11EiEMeE8ZGw0*VCg5SCcDeRuBAutiwkLeR
RwOo*nMajduy5O*gIaus9qel9vX*lJbHJmyDMxuKFFI27tsT*I1S6pl*jzBb*IOTE_",
"UserId": "trtc_partner_test_1"
},
"VideoParams": {
"VideoEncode": {
"Height": 720,
"Width": 1280,
"Fps": 15,
"BitRate": 512,
"Gop": 2
},
"LayoutParams": {
"MixLayoutMode": 4,
"MixLayoutList": [
{
"LocationX": 0,
"LocationY": 0,
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "295066",
"UserId": "57906"
}
},
"ZOrder": 0,
"ImageHeight": 0,
"ImageWidth": 0,
"RenderMode": 0
}
]
}
},
"PublishCdnParams": [
{
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/1400188366_owen_main_1"
}
],
```

```
"RoomIdType": 0,
"SdkAppId": 1400188366,
"WithTranscoding": 1,
"RoomId": "295066"
}
```

Output Example

```
{
"Response": {
"TaskId": "-m9liFNU7m+nWPL+icY53kcSoQ+-czzbEhD2AYK-4pycoZXmj3cMGzreW5xwhHTpcPRNAQ..",
"RequestId": "6774662b-64a0-4aec-8389-0513873585b4"
}
}
```

Example5 Starting a task to mix the audios of all users in a room and the video of one user and relay the result

This example shows you how to start a task to mix the audios of all users in a room and the video of one user and relay the result.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: StartPublishCdnStream
<Common request parameters>

{
"AudioParams": {
"AudioEncode": {
"SampleRate": 48000,
"Codec": 0,
"BitRate": 64,
"Channel": 2
}
},
"AgentParams": {
"MaxIdleTime": 10,
"UserSig": "eJw1zV8LgjAUBfCvInsO2dStGfQSQUb2pFJvsnLJJZW1LekPffdc6X08v8O5b5Snmd9LjRYeCnyMZt4vgUp2Fi7wB6vtuVRC207q0kpjSzIVTXUVSkE11EiEMeE8ZGw0*VCg5SCcDeRuBAutiwkLeRRwOo*nMajduy5O*gIaus9qel9vX*lJbHJmyDMxuKFFI27tsT*I1S6pl*jzBb*IOTE_",
"UserId": "trtc_partner_test_1"
```

```
},
"VideoParams": {
"VideoEncode": {
"Height": 720,
"Width": 1280,
"Fps": 15,
"BitRate": 512,
"Gop": 2
},
"LayoutParams": {
"MixLayoutMode": 4,
"MixLayoutList": [
{
"LocationX": 0,
"LocationY": 0,
"UserMediaStream": {
"StreamType": 0,
"UserInfo": {
"RoomIdType": 0,
"RoomId": "295066",
"UserId": "57906"
}
},
"ZOrder": 0,
"ImageHeight": 640,
"ImageWidth": 1280,
"RenderMode": 0
}
]
}
},
"PublishCdnParams": [
{
"PublishCdnUrl": "rtmp://3891.livepush.myqcloud.com/live/1400188366_owen_main_1"
}
],
"RoomIdType": 0,
"SdkAppId": 1400188366,
"WithTranscoding": 1,
"RoomId": "295066"
}
```

Output Example

```
{
"Response": {
```

```
"TaskId": "-m9liFNU7qjpXnrk6cloz8KXukyLKjzbLhP2AYK-4pycoZVbtyt6U21l9vJOqqeIfwR5AQ..",
"RequestId": "97dae8e4-4778-45c8-9abe-cdce33c1a450"
}
}
```


5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation	Operation failed.

FailedOperation.RestrictedConcurrency	Maximum number of concurrent on-cloud recording tasks reached. Contact us to raise the limit.
InternalError	Internal error.
InvalidParameter	Parameter error.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
MissingParameter	Missing parameter.
ResourceNotFound	The resource does not exist.
UnsupportedOperation	Unsupported operation.

On-cloud recording APIs
CreateCloudRecording

最終更新日：：2024-03-11 11:06:32

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

API description:
This API is used to start an on-cloud recording task. It records the audio and video streams in a room and saves them to the specified cloud storage. You can use this API to record the streams in a room separately, or you can mix the streams first and then record the mixed stream.

You can use this API to perform the following operations:

- Specify the anchors whose streams you want or do not want to record by using the `RecordParams` parameter
- Specify the storage service you want to save recording files to by using the `StorageParams` parameter. Currently, you can save recording files to Tencent Cloud VOD or COS.
- Specify transcoding settings for mixed-stream recording, including video resolution, video bitrate, frame rate, and audio quality, by using `MixTranscodeParams`
- Specify the layout of different videos in mixed-stream recording mode or select an auto-arranged layout template

Key concepts:

- Single-stream recording: Record the audio and video of each subscribed user (`UserId`) in a room and save the recording files to the storage you specify.
  Mixed-stream recording: Mix the audios and videos of subscribed users (`UserId`) in a room, record the mixed stream, and save the recording files to the storage you specify. After a recording task ends, you can go to the VOD console (https://console.tencentcloud.com/vod/media) or COS console to view the recording files.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: CreateCloudRecording.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-shanghai, ap-singapore.
SdkAppId	Yes	Integer	The SDKAppID of the TRTC room whose streams are recorded.
RoomId	Yes	String	The room ID of the TRTC room whose streams are recorded.
UserId	Yes	String	The user ID of the recording robot in the TRTC room, which cannot be identical to the user IDs of anchors in the room or other recording robots. To distinguish this user ID from others, we recommend you include the room ID in the user ID.
UserSig	Yes	String	The signature (similar to a login password) required for the recording robot to enter the room. Each user ID corresponds to a signature. For information on how to calculate the signature, see What is UserSig?.
RecordParams	Yes	RecordParams	The on-cloud recording parameters.
StorageParams	Yes	StorageParams	The storage information of the recording file. Currently, you can save recording files to Tencent Cloud VOD or COS.
RoomIdType	No	Integer	The type of the TRTC room ID, which must be the same as the ID type of the room whose

			streams are recorded. 0: String 1: 32-bit integer (default)
MixTranscodeParams	No	MixTranscodeParams	The stream mixing parameters, which are valid if the mixed-stream recording mode is used.
MixLayoutParams	No	MixLayoutParams	The layout parameters, which are valid if the mixed-stream recording mode is used.
ResourceExpiredHour	No	Integer	The amount of time (in hours) during which API requests can be made after recording starts. Calculation starts when a recording task is started (when the recording task ID is returned). Once the period elapses, the query, modification, and stop recording APIs can no longer be called, but the recording task will continue. The default value is `72` (three days), and the maximum and minimum values allowed are `720` (30 days) and `6` respectively. If you do not set this parameter, the query, modification, and stop recording APIs can be called within 72 hours after recording starts.
PrivateMapKey	No	String	The permission ticket for a TRTC room. This parameter is required if advanced permission control is enabled in the console, in which case the TRTC backend will verify users' PrivateMapKey, which include an encrypted room ID and permission bit list. A user providing only `UserSig` and not `PrivateMapKey` will be unable to enter the room.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	The task ID assigned by the recording service, which uniquely identifies a recording process and becomes invalid after a recording task ends. After a recording task starts,

		if you want to perform other actions on the task, you need to specify the task ID when making API requests.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Starting an on-cloud recording task

This example shows you how to start on-cloud recording in room 3560 under the application whose `SDKAppID` is `1234`.

The timeout period for recording is one minute.
The recording mode is mixed-stream recording.
The type of the streams recorded are audio and video.
The streams of all anchors in the room are subscribed.
The resolution of the recorded video is 360 x 640, the frame rate is 15 fps, and the bitrate is 500,000 bps. The default background color is used.
The grid layout template is used.
The recording file is saved to Tencent Cloud VOD.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: CreateCloudRecording
<Common request parameters>

{
"StorageParams": {
"CloudVod": {
"TencentVod": {
"ExpireTime": 0
}
}
},
"UserSig": "11xx111",
"UserId": "10001",
"RecordParams": {
"MaxIdleTime": 60,
```

```
"StreamType": 0,
"RecordMode": 2
},
"RoomIdType": 1,
"MixTranscodeParams": {
"VideoParams": {
"Width": 360,
"BitRate": 500000,
"Fps": 15,
"Height": 640,
"Gop": 10
}
},
"MixLayoutParams": {
"MixLayoutMode": 3
},
"SdkAppId": 1234,
"RoomId": "3560"
}
```

Output Example

```
{
"Response": {
"TaskId": "-gCTFWtU7t7DUlo7A8IswFszO9z2O-rbERqJAoK-4pycoZXKjIAAnasdcasdOEycyX4CnzhIm4RAQ..",
"RequestId": "71993312-6ab8-4768-9124-118e0a20c45f"
}
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET

- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation	Operation failed.
FailedOperation.CRUnsupportMethod	Unsupported on-cloud recording method.
FailedOperation.RestrictedConcurrency	Maximum number of concurrent on-cloud recording tasks reached. Contact us to raise the limit.
InternalError.CRInternalError	On-cloud recording internal error.
InvalidParameter.OutOfRange	Parameter value is out of range.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
MissingParameter.AccessKey	`AccessKey` parameter missing.
MissingParameter.Bucket	`Bucket` parameter missing.
MissingParameter.CloudStorage	`CloudStorage` parameter missing.
MissingParameter.RecordMode	`RecordMode` parameter missing.
MissingParameter.RecordParams	`RecordParams` parameter missing.
MissingParameter.Region	`Region` parameter missing.

MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.SecretKey	`SecretKey` parameter missing.
MissingParameter.StorageParams	`StorageParams` parameter missing.
MissingParameter.StreamType	`StreamType` parameter missing.
MissingParameter.TaskId	`TaskId` parameter missing.
MissingParameter.UserId	Missing `UserId` parameter.
MissingParameter.UserSig	`UserSig` parameter missing.
MissingParameter.Vendor	`Vendor` parameter missing.
UnsupportedOperation	Unsupported operation.

DescribeCloudRecording

最終更新日：：2024-03-11 11:06:31

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to query the status of a recording task after it starts. It works only when a task is in progress. If the task has already ended when this API is called, an error will be returned.
If a recording file is being uploaded to VOD, the response parameter `StorageFileList` will not contain the information of the recording file. Please listen for the recording file callback to get the information.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeCloudRecording.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-shanghai, ap-singapore.
SdkAppId	Yes	Integer	The `SDKAppID` of the room whose streams are recorded.
TaskId	Yes	String	The unique ID of the recording task, which is returned after recording starts successfully.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	The unique ID of the recording task.
Status	String	The status of the on-cloud recording task. Idle: The task is idle. InProgress: The task is in progress. Exited: The task is being ended.
StorageFileList	Array of StorageFile	The information of the recording files. Note: This field may return `null`, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the status of the task whose task ID is xx under the application whose `SDKAppID` is `1234`

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeCloudRecording
<Common request parameters>

{
"TaskId": "xx",
"SdkAppId": 1234
}
```

Output Example

```
{
"Response": {
"Status": "InProgress",
```

```
"StorageFileList": [],
"RequestId": "xx",
"TaskId": "xx"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation	Operation failed.

FailedOperation.CRUnsupportMethod	Unsupported on-cloud recording method.
InternalError.CRInternalError	On-cloud recording internal error.
InvalidParameter.OutOfRange	Parameter value is out of range.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.TaskId	`TaskId` parameter missing.
MissingParameter.UserId	Missing `UserId` parameter.
ResourceNotFound	The resource does not exist.

ModifyCloudRecording

最終更新日：：2024-03-11 11:06:31

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to modify a recording task. It works only when a task is in progress. If the task has already ended when this API is called, an error will be returned. You need to specify all the parameters for each request instead of just the ones you want to modify.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: ModifyCloudRecording.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-shanghai, ap-singapore.
SdkAppId	Yes	Integer	The `SDKAppID` of the room whose streams are recorded.

TaskId	Yes	String	The unique ID of the recording task, which is returned after recording starts successfully.
MixLayoutParams	No	MixLayoutParams	The new stream mixing layout to use.
SubscribeStreamUserIds	No	SubscribeStreamUserIds	The allowlist/blocklist for stream subscription.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	The task ID assigned by the recording service, which uniquely identifies a recording process and becomes invalid after a recording task ends.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Modifying an on-cloud recording task

This example shows you how to subscribe to the video and audio streams of user 123 and 456 and customize the layout for the recording task whose task ID is xx under the application whose `SDKAppID` is `1234`.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: ModifyCloudRecording
<Common request parameters>

{
"SubscribeStreamUserIds": {
"SubscribeVideoUserIds": [
"123",
"456"
],
```

```
"SubscribeAudioUserIds": [
"123",
"456"
]
},
"TaskId": "xx",
"SdkAppId": 1234,
"MixLayoutParams": {
"MixLayoutMode": 4,
"MixLayoutList": [
{
"Top": 100,
"UserId": "123",
"Height": 100,
"Width": 100,
"Left": 100
},
{
"Top": 200,
"UserId": "456",
"Height": 100,
"Width": 100,
"Left": 200
}
]
}
}
```

Output Example

```
{
"Response": {
"TaskId": "5df46eb2-8e4b-490e-9c3c-dbd3b84faefc",
"RequestId": "71993312-6ab8-4768-9124-118e0a20c45f"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation	Operation failed.
FailedOperation.CRUnsupportMethod	Unsupported on-cloud recording method.
InternalError.CRInternalError	On-cloud recording internal error.
InvalidParameter.OutOfRange	Parameter value is out of range.
MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.TaskId	`TaskId` parameter missing.
MissingParameter.UserId	Missing `UserId` parameter.
ResourceNotFound	The resource does not exist.

DeleteCloudRecording

最終更新日：：2024-03-11 11:06:32

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to stop a recording task. If a task is stopped successfully, but the uploading of recording files has not completed, the backend will continue to upload the files and will notify you via a callback when the upload is completed.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DeleteCloudRecording.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-beijing, ap-guangzhou, ap-mumbai, ap-shanghai, ap-singapore.
SdkAppId	Yes	Integer	The `SDKAppID` of the room whose streams are recorded.
TaskId	Yes	String	The unique ID of the recording task, which is returned after recording starts successfully.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	The task ID assigned by the recording service, which uniquely identifies a recording process and becomes invalid after a recording task ends.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Stopping an on-cloud recording task

This example shows you how to stop the on-cloud recording task whose ID is xx under the application whose `SDKAppID` is `1234` .

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DeleteCloudRecording
<Common request parameters>

{
"TaskId": "xx",
"SdkAppId": 1234
}
```

Output Example

```
{
"Response": {
"TaskId": "5df46eb2-8e4b-490e-9c3c-dbd3b84faefc",
"RequestId": "71993312-6ab8-4768-9124-118e0a20c45f"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation.CRUnsupportMethod	Unsupported on-cloud recording method.
InternalError.CRInternalError	On-cloud recording internal error.
InvalidParameter.OutOfRange	Parameter value is out of range.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.
MissingParameter.RoomId	`RoomId` is missing.

MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.TaskId	`TaskId` parameter missing.
MissingParameter.UserId	Missing `UserId` parameter.
ResourceNotFound	The resource does not exist.

Usage Statistics APIs
DescribeTrtcUsage

最終更新日：：2024-03-11 11:06:25

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to query your TRTC audio/video duration.

- If the period queried is one day or shorter, the statistics returned are on a five-minute basis. If the period queried is longer than one day, the statistics returned are on a daily basis.
- The period queried per request cannot be longer than 31 days.
- If you query the statistics of the current day, the statistics returned may be inaccurate due to the delay in data collection.
- You can use this API to query your historical usage or to reconcile data, but we do not recommend you use it for crucial business logic.
- The rate limit of this API is five calls per second.

A maximum of 5 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTrtcUsage.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.

Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-guangzhou, ap-singapore.
StartTime	Yes	String	The start date in the format of YYYY-MM-DD.
EndTime	Yes	String	The end date in the format of YYYY-MM-DD. The period queried per request cannot be longer than 31 days.
SdkAppId	No	Integer	The `SDKAppID` of the TRTC application to which the target room belongs. If you do not specify this parameter, the usage statistics of all TRTC applications under the current account will be returned.

3. Output Parameters

Parameter Name	Type	Description
UsageKey	Array of String	The usage type. Each element of this parameter corresponds to an element of `UsageValue` in the order they are listed.
UsageList	Array of TrtcUsage	The usage data in each time unit.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the usage of the application whose `SDKAppID` is `1400123456` from January 1, 2022 to January 2, 2022

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeTrtcUsage
<Common request parameters>

{
```

```
"EndTime": "2022-01-01",
"StartTime": "2022-01-02",
"SdkAppId": 1400123456
}
```

Output Example

```
{
"Response": {
"UsageKey": [
"Audio",
"SD",
"HD",
"FullHD",
"2K",
"4K"
],
"UsageList": [
{
"TimeKey": "2022-01-01 00:00:00",
"UsageValue": [
10,
20,
30,
40,
50,
60
]
},
{
"TimeKey": "2022-01-02 00:00:00",
"UsageValue": [
10,
20,
30,
40,
50,
60
]
}
],
"RequestId": "xx"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.

DescribeRecordingUsage

最終更新日：：2024-03-11 11:06:26

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to query your TRTC recording usage.

- If the period queried is one day or shorter, the statistics returned are on a five-minute basis. If the period queried is longer than one day, the statistics returned are on a daily basis.
- The period queried per request cannot be longer than 31 days.
- If you query the statistics of the current day, the statistics returned may be inaccurate due to the delay in data collection.
- You can use this API to query your historical usage or to reconcile data, but we do not recommend you use it for crucial business logic.
- The rate limit of this API is five calls per second.

A maximum of 5 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeRecordingUsage.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions

			supported by the product. This API only supports: ap-guangzhou, ap-singapore.
StartTime	Yes	String	The start date in the format of YYYY-MM-DD.
EndTime	Yes	String	The end date in the format of YYYY-MM-DD. The period queried per request cannot be longer than 31 days.
MixType	Yes	String	Whether to query single-stream or mixed-stream recording. Valid values: `single`, `multi`.
SdkAppId	No	Integer	The `SDKAppID` of the TRTC application to which the target room belongs. If you do not specify this parameter, the usage statistics of all TRTC applications under the current account will be returned.

3. Output Parameters

Parameter Name	Type	Description
UsageKey	Array of String	The usage type. Each element of this parameter corresponds to an element of `UsageValue` in the order they are listed.
UsageList	Array of TrtcUsage	The usage data in each time unit.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the single-stream recording usage of the application whose `SDKAppID` is `1400123456` from January 1, 2022 to January 2, 2022.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeRecordingUsage
<Common request parameters>
```

```
{
"EndTime": "2022-01-01",
"StartTime": "2022-01-02",
"SdkAppId": 1400123456,
"MixType": "single"
}
```

Output Example

```
{
"Response": {
"UsageKey": [
"Audio",
"SD",
"HD",
"FullHD",
"2K",
"4K"
],
"UsageList": [
{
"TimeKey": "2022-01-01 00:00:00",
"UsageValue": [
10,
20,
30,
40,
50,
60
]
},
{
"TimeKey": "2022-01-02 00:00:00",
"UsageValue": [
10,
20,
30,
40,
50,
60
]
}
],
"RequestId": "xx"
```

```
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.

DescribeMixTranscodingUsage

最終更新日：：2024-03-11 11:06:26

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to query your usage of TRTC's On-Cloud MixTranscoding service.

- If the period queried is one day or shorter, the statistics returned are on a five-minute basis. If the period queried is longer than one day, the statistics returned are on a daily basis.
- The period queried per request cannot be longer than 31 days.
- If you query the statistics of the current day, the statistics returned may be inaccurate due to the delay in data collection.
- You can use this API to query your historical usage or to reconcile data, but we do not recommend you use it for crucial business logic.
- The rate limit of this API is five calls per second.

A maximum of 5 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeMixTranscodingUsage.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions

			supported by the product. This API only supports: ap-guangzhou, ap-singapore.
StartTime	Yes	String	The start date in the format of YYYY-MM-DD.
EndTime	Yes	String	The end date in the format of YYYY-MM-DD. The period queried per request cannot be longer than 31 days.
SdkAppId	No	Integer	The `SDKAppID` of the TRTC application to which the target room belongs. If you do not specify this parameter, the usage statistics of all TRTC applications under the current account will be returned.

3. Output Parameters

Parameter Name	Type	Description
UsageKey	Array of String	The usage type. Each element of this parameter corresponds to an element of `UsageValue` in the order they are listed.
UsageList	Array of TrtcUsage	The usage data in each time unit.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the usage of the application whose `SDKAppID` is `1400123456` from January 1, 2022 to January 2, 2022

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeMixTranscodingUsage
<Common request parameters>

{
"EndTime": "2022-01-01",
```

```
"StartTime": "2022-01-02",
"SdkAppId": 1400123456
}
```

Output Example

```
{
"Response": {
"UsageKey": [
"Audio",
"SDH264",
"HDH264",
"FullHDH264",
"2KH264",
"4KH264",
"SDH265",
"HDH265",
"FullHDH265",
"2KH265",
"4KH265"
],
"UsageList": [
{
"TimeKey": "2022-01-01 00:00:00",
"UsageValue": [
10,
20,
30,
40,
50,
60,
70,
80,
90,
100,
110
]
},
{
"TimeKey": "2022-01-02 00:00:00",
"UsageValue": [
10,
20,
30,
40,
50,
```

```
60,
70,
80,
90,
100,
110
]
}
],
"RequestId": "xx"
}
}
```


5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
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- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.

InvalidParameter.SdkAppId	`SdkAppId` is incorrect.

DescribeRelayUsage

最終更新日：：2024-03-11 11:06:26

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to query your usage of TRTC's relay to CDN service.

- If the period queried is one day or shorter, the statistics returned are on a five-minute basis. If the period queried is longer than one day, the statistics returned are on a daily basis.
- The period queried per request cannot be longer than 31 days.
- If you query the statistics of the current day, the statistics returned may be inaccurate due to the delay in data collection.
- You can use this API to query your historical usage or to reconcile data, but we do not recommend you use it for crucial business logic.
- The rate limit of this API is five calls per second.

A maximum of 5 requests can be initiated per second for this API.

We recommend you to use API Explorer
Try it
API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeRelayUsage.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-guangzhou, ap-

			singapore.
StartTime	Yes	String	The start date in the format of YYYY-MM-DD.
EndTime	Yes	String	The end date in the format of YYYY-MM-DD. The period queried per request cannot be longer than 31 days.
SdkAppId	No	Integer	The `SDKAppID` of the TRTC application to which the target room belongs. If you do not specify this parameter, the usage statistics of all TRTC applications under the current account will be returned.

3. Output Parameters

Parameter Name	Type	Description
UsageKey	Array of String	The usage type. Each element of this parameter corresponds to an element of `UsageValue` in the order they are listed.
UsageList	Array of TrtcUsage	The usage data in each time unit.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying the usage of the application whose `SDKAppID` is `1400123456` from January 1, 2022 to January 2, 2022

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeRelayUsage
<Common request parameters>

{
"EndTime": "2022-01-01",
"StartTime": "2022-01-02",
```

```
"SdkAppId": 1400123456
}
```

Output Example

```
{
"Response": {
"UsageKey": [
"Bandwidth"
],
"UsageList": [
{
"TimeKey": "2022-01-01 00:00:00",
"UsageValue": [
10.11
]
},
{
"TimeKey": "2022-01-02 00:00:00",
"UsageValue": [
10.11
]
}
],
"RequestId": "xx"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.

DescribeTrtcRoomUsage

最終更新日：：2024-03-11 11:06:25

1. API Description

Domain name for API request: trtc.tencentcloudapi.com.

This API is used to query usage data grouped by room.

- The queried period cannot exceed 24 hours. If the period spans two different days, the data returned may not be accurate due to a delay in data collection. You can make multiple calls to query the usage on different days.
- You can use this API to query your historical usage or to reconcile data, but we do not recommend you use it for crucial business logic.
- The rate limit of this API is one call every 15 seconds.

We recommend you to use API Explorer

Try it

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see Common Request Parameters.

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTrtcRoomUsage.
Version	Yes	String	Common Params. The value used for this API: 2019-07-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-guangzhou, ap-singapore.
SdkAppid	Yes	Integer	The `SDKAppID` of the room.
StartTime	Yes	String	The start time in the format of `YYYY-MM-DD HH:MM` (accurate to the

			minute).
EndTime	Yes	String	The end time in the format of `YYYY-MM-DD HH:MM`. The start and end time cannot be more than 24 hours apart.

3. Output Parameters

Parameter Name	Type	Description
Data	String	The usage data grouped by room, in CSV format.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying usage data grouped by room

This example shows you how to query usage data grouped by room.

Input Example

```
POST / HTTP/1.1
Host: trtc.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeTrtcRoomUsage
<Common request parameters>

{
"StartTime": "2023-01-06 00:00",
"EndTime": "2023-01-06 10:00",
"SdkAppid": 1400017192
}
```

Output Example

```
{
"Response": {
"RequestId": "68fccf1c-c2c7-466a-9f14-1db4bed6054b",
"Data": "RoomId,Audio,SD,hd,FullHD,2K,4K
```

```
test_room,1,2,3,4,5,6
"
}
}
```

5. Developer Resources

SDK

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- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for Node.js
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see Common Error Codes.

Error Code	Description
FailedOperation.SdkAppIdNotExist	The application ID does not exist.
InternalError.DBError	An error occurred while querying the database.
InvalidParameter	Parameter error.

Data Types

最終更新日：：2024-03-11 11:06:36

AbnormalEvent

The information of an error event (the possible cause of an abnormal user experience).

Used by actions: DescribeUnusualEvent.

Name	Type	Description
AbnormalEventId	Integer	The error event ID. For details, see https://www.tencentcloud.com/document/product/647/37906?has_map=1
PeerId	String	The remote user ID. If this parameter is empty, it indicates that the error event is not associated with a remote user. Note: This field may return null, indicating that no valid values can be obtained.

AbnormalExperience

The information of an abnormal user experience and the possible causes.

Used by actions: DescribeUnusualEvent.

Name	Type	Description
UserId	String	The user ID.
ExperienceId	Integer	The abnormal experience ID.
RoomId	String	The room ID (string).
AbnormalEventList	Array of AbnormalEvent	The possible error events.
EventTime	Integer	The report time.

AgentParams

The information of the relaying robot in the room.

Used by actions: StartPublishCdnStream.

Name	Type	Required	Description
UserId	String	Yes	The user ID of the relaying robot in the TRTC room, which cannot be the same as a user ID already in use. We recommend you include the room ID in this user ID.
UserSig	String	No	The signature (similar to a login password) required for the relaying robot to enter the room. For information on how to calculate the signature, see What is UserSig?. |
MaxIdleTime	Integer	No	The timeout period (seconds) for relaying to stop automatically after all the users whose streams are mixed leave the room. The value cannot be smaller than 5 or larger than 86400 (24 hours). Default value: 30.

AudioEncode

The audio encoding parameters.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
SampleRate	Integer	Yes	The audio sample rate (Hz). Valid values: 48000, 44100, 32000, 24000, 16000, 8000.
Channel	Integer	Yes	The number of sound channels. Valid values: 1 (mono), 2 (dual).
BitRate	Integer	Yes	The audio bitrate (Kbps). Value range: 8-500.
Codec	Integer	No	The audio codec. Valid values: 0 (LC-AAC), 1 (HE-AAC), 2 (HE-AACv2). The default value is 0. If this parameter is set to 2, `Channel` must be 2. If it is set to 1 or 2, `SampleRate` can only be 48000, 44100, 32000, 24000, or 16000.

AudioEncodeParams

Audio transcoding parameters

Used by actions: StartStreamIngest.

Name	Type	Required	Description

SampleRate	Integer	Yes	Audio Sample rate, Value range [48000, 44100], unit is Hz.
Channel	Integer	Yes	Audio Channel number, Value range [1,2], 1 means Audio is Mono-channel, 2 means Audio is Dual-channel.
BitRate	Integer	Yes	Audio Bitrate, Value range [8,500], unit is kbps.

AudioParams

The audio transcoding parameters for recording.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
SampleRate	Integer	Yes	The audio sample rate. 1: 48000 Hz (default) 2: 44100 Hz 3: 16000 Hz
Channel	Integer	Yes	The number of sound channels. 1: Mono-channel 2: Dual-channel (default)
BitRate	Integer	Yes	The audio bitrate (bps). Value range: [32000, 128000]. Default: 64000.

CloudStorage

The cloud storage information.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
Vendor	Integer	Yes	The cloud storage provider. `0` : Tencent Cloud COS; `1` : AWS storage. Other vendors are not supported currently.
Region	String	Yes	The region of cloud storage.
Bucket	String	Yes	The storage bucket.
AccessKey	String	Yes	The access_key of the cloud storage account.

SecretKey	String	Yes	The secret_key of the cloud storage account.
FileNamePrefix	Array of String	No	The bucket to save data, which is an array of strings that can contain letters (a-z and A-Z), numbers (0-9), underscores (_), and hyphens (-). For example, if the value of this parameter is `["prefix1", "prefix2"]`, the recording file `xxx.m3u8` will be saved as `prefix1/prefix2/TaskId/xxx.m3u8`.

CloudVod

The VOD parameters.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
TencentVod	TencentVod	No	The Tencent Cloud VOD parameters.

EventList

A list of SDK or WebRTC events.

Used by actions: DescribeUserEvent.

Name	Type	Description
Content	Array of EventMessage	The event information.
PeerId	String	The user ID of the sender.

EventMessage

The event information, including the timestamp and event ID.

Used by actions: DescribeUserEvent.

Name	Type	Description
Type	Integer	The video stream type. Valid values: `0`: A non-video event `2`: The big video

		`3` : The small video `7` : A relayed video
Time	Integer	The event reporting time in the format of UNIX timestamp (milliseconds), such as `1589891188801` .
EventId	Integer	The event ID. Events are classified into SDK events and WebRTC events. For more information, see https://www.tencentcloud.com/document/product/647/37906?has_map=1
ParamOne	Integer	The first event parameter, such as the video width.
ParamTwo	Integer	The second event parameter, such as the video height.

MaxVideoUser

The information of the large video in screen sharing or floating layout mode.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
UserMediaStream	UserMediaStream	Yes	The stream information.

McuAudioParams

The audio parameters for relaying.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
AudioEncode	AudioEncode	No	The audio encoding parameters.
SubscribeAudioList	Array of McuUserInfoParams	No	The audio mix allowlist. For the `StartPublishCdnStream` API, if you do not pass this parameter or leave it empty, the audios of all anchors will be mixed. For the `UpdatePublishCdnStream` API, if you do not pass this parameter, no changes will be made to the current allowlist; if you pass in an empty string, the audios of all anchors will be mixed.

			In cases where `SubscribeAudioList` and `UnSubscribeAudioList` are used at the same time, you need to specify both parameters. If you pass neither `SubscribeAudioList` nor `UnSubscribeAudioList`, no changes will be made. If a user is included in both parameters, the user's audio will not be mixed.
UnSubscribeAudioList	Array of McuUserInfoParams	No	The audio mix blocklist. If you do not pass this parameter or leave it empty, there won't be a blocklist. For the `UpdatePublishCdnStream` API, if you do not pass this parameter, no changes will be made to the current blocklist; if you pass in an empty string, the blocklist will be reset. In cases where `SubscribeAudioList` and `UnSubscribeAudioList` are used at the same time, you need to specify both parameters. If you pass neither `SubscribeAudioList` nor `UnSubscribeAudioList`, no changes will be made. If a user is included in both parameters, the user's audio will not be mixed.

McuCustomCrop

The cropping parameters for mixed videos.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
LocationX	Integer	Yes	The horizontal offset (pixels) of the starting point for cropping. This parameter must be greater than 0.
LocationY	Integer	Yes	The vertical offset (pixels) of the starting point for cropping. This parameter must be greater than 0.
Width	Integer	Yes	The video width (pixels) after cropping. The sum of this parameter and `LocationX` cannot be greater than 10000.
Height	Integer	Yes	The video height (pixels) after cropping. The sum of this parameter and `LocationY` cannot be greater than 10000.

McuFeedBackRoomParams

Parameters for relaying to a TRTC room.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
RoomId	String	Yes	The room ID.
RoomIdType	Integer	Yes	The ID type of the room to which streams are relayed. `0` indicates integer, and `1` indicates string.
UserId	String	Yes	The user ID of the relaying robot in the TRTC room, which cannot be the same as a user ID already in use. We recommend you include the room ID in this user ID.
UserSig	String	Yes	The signature (similar to login password) required for the relaying robot to enter the room. For information on how to calculate the signature, see What is UserSig?.

McuLayout

The layout parameters.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
UserMediaStream	UserMediaStream	No	The information of the stream that is displayed. If you do not pass this parameter, TRTC will display the videos of anchors in the room according to their room entry sequence.
ImageWidth	Integer	No	The video width (pixels). If you do not pass this parameter, 0 will be used.
ImageHeight	Integer	No	The video height (pixels). If you do not pass this parameter, 0 will be used.
LocationX	Integer	No	The horizontal offset (pixels) of the video. The sum of `LocationX` and `ImageWidth` cannot exceed the width of the canvas. If you do not pass this parameter, 0 will be used.

LocationY	Integer	No	The vertical offset of the video. The sum of `LocationY` and `ImageHeight` cannot exceed the height of the canvas. If you do not pass this parameter, 0 will be used.
ZOrder	Integer	No	The image layer of the video. If you do not pass this parameter, 0 will be used.
RenderMode	Integer	No	The rendering mode of the video. 0 (the video is scaled and the excess parts are cropped), 1 (the video is scaled), 2 (the video is scaled and the blank spaces are filled with black bars). If you do not pass this parameter, 0 will be used.
BackGroundColor	String	No	(Not supported yet) The background color of a video. Below are the values for some commonly used colors: Red: `0xcc0033` Yellow: `0xcc9900` Green: `0xcccc33` Blue: `0x99CCFF` Black: `0x000000` White: `0xFFFFFF` Grey: `0x999999`
BackgroundImageUrl	String	No	The URL of the background image for the video. This parameter allows you to specify an image to display when the user's camera is turned off or before the user enters the room. If the dimensions of the image specified are different from those of the video window, the image will be stretched to fit the space. This parameter has a higher priority than `BackGroundColor` .
CustomCrop	McuCustomCrop	No	Custom cropping.
BackgroundRenderMode	Integer	No	The display mode of the sub-background image during output: 0 for cropping, 1 for scaling and displaying the background, 2 for scaling and displaying the black background, 3 for proportional scaling. If not filled in, the default is 3.

McuLayoutParams

The layout parameters.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
MixLayoutMode	Integer	No	The layout mode. Valid values: 1 (floating), 2 (screen sharing), 3 (grid), 4 (custom). Floating, screen sharing, and grid are dynamic layouts. Custom layouts are static layouts.
PureAudioHoldPlaceMode	Integer	No	Whether to display users who publish only audio. 0: No; 1: Yes. This parameter is valid only if a dynamic layout is used. If you do not pass this parameter, 0 will be used.
MixLayoutList	Array of McuLayout	No	The details of a custom layout.
MaxVideoUser	MaxVideoUser	No	The information of the large video in screen sharing or floating layout mode.
RenderMode	Integer	No	The image fill mode. This parameter is valid if the layout mode is screen sharing, floating, or grid. `0` : The image will be cropped. `1` : The image will be scaled. `2` : The image will be scaled and there may be black bars.

McuLayoutVolume

The SEI parameters for audio volume layout. You can specify the `AppData` and `PayloadType` .
This parameter may be empty, in which case the default SEI parameters for audio volume layout will be used.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
AppData	String	No	The application data, which will be embedded in the `app_data` field of the custom SEI. It must be shorter than 4,096 characters.
PayloadType	Integer	No	The payload type of the SEI message. The default is 100. Value range: 100-254 (244 is used internally by Tencent Cloud for

			timestamps).
Interval	Integer	No	The SEI sending interval (milliseconds). The default value is 1000.
FollowIdr	Integer	No	Valid values: `1` : SEI is guaranteed when keyframes are sent; `0` (default): SEI is not guaranteed when keyframes are sent.

McuPassThrough

The custom pass-through SEI.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
PayloadContent	String	Yes	The payload of the pass-through SEI.
PayloadType	Integer	Yes	The payload type of the SEI message. Value range: 5 and 100-254 (244 is used internally by Tencent Cloud for timestamps).
PayloadUuid	String	No	This parameter is required only if `PayloadType` is 5. It must be a 32-character hexadecimal string. If `PayloadType` is not 5, this parameter will be ignored.
Interval	Integer	No	The SEI sending interval (milliseconds). The default value is 1000.
FollowIdr	Integer	No	Valid values: `1` : SEI is guaranteed when keyframes are sent; `0` (default): SEI is not guaranteed when keyframes are sent.

McuPublishCdnParam

The relaying parameters.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
PublishCdnUrl	String	Yes	The URLs of the CDNs to relay to.
IsTencentCdn	Integer	No	Whether to relay to Tencent Cloud's CDN. `0` : Third-party CDN; `1` (default): Tencent Cloud's CDN. Relaying to a third-party CDN will incur fees. To avoid unexpected charges, we recommend you pass in a specific value. For details, see the API document.

McuSeiParams

The stream mixing SEI parameters.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
LayoutVolume	McuLayoutVolume	No	The audio volume layout SEI.
PassThrough	McuPassThrough	No	The pass-through SEI.

McuUserInfoParams

The users whose streams are mixed.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
UserInfo	MixUserInfo	Yes	The user information.

McuVideoParams

The video parameters for relaying.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
VideoEncode	VideoEncode	No	The video encoding parameters.
LayoutParams	McuLayoutParams	No	The layout parameters.
BackGroundColor	String	No	The canvas color. Below are the values for some common colors: Red: 0xcc0033 Yellow: 0xcc9900 Green: 0xcccc33 Blue: 0x99CCFF Black: 0x000000 White: 0xFFFFFF Grey: 0x999999

BackgroundImageUrl	String	No	The URL of the background image for the canvas. This parameter has a higher priority than `BackGroundColor`.
WaterMarkList	Array of McuWaterMarkParams	No	The watermark information for the mixed stream.
BackgroundRenderMode	Integer	No	Background image display mode during output: 0 for crop, 1 for scale and display with black background, 2 for proportional scaling. The backend default is proportional scaling.

McuWaterMarkImage

The information of the watermark image.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
WaterMarkUrl	String	Yes	The URL of the watermark image, which must be in PNG, JPG, or JPEG format and cannot exceed 5 MB.
WaterMarkWidth	Integer	Yes	The watermark width (pixels).
WaterMarkHeight	Integer	Yes	The watermark height (pixels).
LocationX	Integer	Yes	The horizontal offset (pixels) of the watermark.
LocationY	Integer	Yes	The vertical offset (pixels) of the watermark.
ZOrder	Integer	No	The image layer of the watermark. If you do not pass this parameter, 0 will be used.

McuWaterMarkParams

The Watermark information.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description

WaterMarkType	Integer	No	The watermark type. Valid values: `0` (default): Image; `1` : Text.
WaterMarkImage	McuWaterMarkImage	No	The watermark image information. This parameter is required if `WaterMarkType` is 0.
WaterMarkText	McuWaterMarkText	No	The text watermark configuration. This parameter is required if `WaterMarkType` is `1` .

McuWaterMarkText

The text watermark configuration.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
Text	String	Yes	The text.
WaterMarkWidth	Integer	Yes	The watermark width (pixels).
WaterMarkHeight	Integer	Yes	The watermark height (pixels).
LocationX	Integer	Yes	The horizontal offset (pixels) of the watermark.
LocationY	Integer	Yes	The vertical offset (pixels) of the watermark.
FontSize	Integer	Yes	The font size.
FontColor	String	No	The text color. The default color is white. Values for some commonly used colors: Red: `0xcc0033` ; yellow: `0xcc9900` ; green: `0xcccc33` ; blue: `0x99CCFF` ; black: `0x000000` ; white: `0xFFFFFF` ; gray: `0x999999` .
BackGroundColor	String	No	The text fill color. If you do not specify this parameter, the fill color will be transparent. Values for some commonly used colors: Red: `0xcc0033` ; yellow: `0xcc9900` ; green: `0xcccc33` ; blue: `0x99CCFF` ; black: `0x000000` ; white: `0xFFFFFF` ; gray: `0x999999` .

MixLayout

The custom layout parameters.

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
Top	Integer	Yes	The Y axis of the window's top-left corner. Value range: [0, 1920]. The value cannot be larger than the canvas height.
Left	Integer	Yes	The X axis of the window's top-left corner. Value range: [0, 1920]. The value cannot be larger than the canvas width.
Width	Integer	Yes	The relative width of the window. Value range: [0, 1920]. The sum of the values of this parameter and `Left` cannot exceed the canvas width.
Height	Integer	Yes	The relative height of the window. Value range: [0, 1920]. The sum of the values of this parameter and `Top` cannot exceed the canvas height.
UserId	String	No	The user ID (string) of the anchor whose video is shown in the window. If you do not set this parameter, anchors' videos will be shown in their room entry sequence.
Alpha	Integer	No	The degree of transparency of the canvas. Value range: [0, 255]. 0 means fully opaque, and 255 means fully transparent.
RenderMode	Integer	No	0: Stretch. In this mode, the image is stretched to fill the space available. The whole image is visible after scaling. However, if the original aspect ratio is different from the target, the image may be distorted. 1: Crop (default). In this mode, if the original aspect ratio is different from the target, the image will be cropped according to the target before being stretched to fill the space available. The image will not be distorted. 2: Blank. This mode stretches the image while keeping its original aspect ratio. If the original aspect ratio is different from the target, there may be blank spaces to the top and bottom or to the left and right of the window. 3: Smart stretch. This mode is similar to the crop mode, except that it restricts cropping to 20% of the image's width or height at most.
MediaId	Integer	No	The type of the stream subscribed to. 0: Primary stream (default)

			1: Substream
ImageLayer	Integer	No	The image layer. 0 is the default value and means the bottommost layer.
SubBackgroundImage	String	No	The URL of the background image for a window. The image must be in JPG or PNG format and cannot be larger than 5 MB. If the image's aspect ratio is different from that of the window, the image will be rendered according to the value of `RenderMode`.

MixLayoutParams

The layout parameters for mixed-stream recording.

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
MixLayoutMode	Integer	Yes	Layout mode: 1: Floating 2: Screen sharing 3: Grid (default) 4: Custom Floating: By default, the video of the first anchor (you can also specify an anchor) who enters the room is scaled to fill the screen. When other anchors enter the room, their videos appear smaller and are superimposed over the large video from left to right starting from the bottom of the canvas according to their room entry sequence. If the total number of videos is 17 or less, there will be four windows in each row (4 x 4); if it is greater than 17, there will be five windows in each row (5 x 5). Up to 25 videos can be displayed. A user who publishes only audio will still be displayed in one window. Screen sharing: The video of a specified anchor occupies a larger part of the canvas on the left side (if you do not specify an anchor, the left window will display the canvas

			background). The videos of other anchors are smaller and are positioned on the right side. If the total number of videos is 17 or less, the small videos are positioned from top to bottom in up to two columns on the right side, with eight videos per column at most. If there are more than 17 videos, the additional videos are positioned at the bottom of the canvas from left to right. Up to 25 videos can be displayed. A user who publishes only audio will still be displayed in one window. Grid: The videos of anchors are scaled and positioned automatically according to the total number of anchors in a room. Each video has the same size. Up to 25 videos can be displayed. Custom: Specify the layout of videos by using the `MixLayoutList` parameter.
MixLayoutList	Array of MixLayout	No	The custom layout details. This parameter is valid if `MixLayoutMode` is set to `4`. Up to 25 videos can be displayed.
BackGroundColor	String	No	The background color, which is a hexadecimal value (starting with "#", followed by the color value) converted from an 8-bit RGB value. For example, the RGB value of orange is `R:255 G:165 B:0`, and its hexadecimal value is `#FFA500`. The default color is black.
MaxResolutionUserId	String	No	The user whose video is displayed in the big window. This parameter is valid if `MixLayoutMode` is set to `1` (floating) or `2` (screen sharing). If it is left empty, the first anchor entering the room is displayed in the big window in the floating mode and the canvas background is displayed in the screen sharing mode.
MediaId	Integer	No	The stream type. 0: Primary stream (default) 1: Substream (screen sharing stream) This parameter specifies the type of the stream displayed in the big window. If it appears in

			`MixLayoutList` , it indicates the type of the stream of a specified user.
BackgroundImageUrl	String	No	The URL of the background image, which cannot contain Chinese characters. The image must be in JPG or PNG format and cannot be larger than 5 MB.
PlaceHolderMode	Integer	No	`1` means to use placeholders, and `0` (default) means to not use placeholders. If this parameter is set to `1` , when a user is not publishing video, a placeholder image will be displayed in the window reserved for the user.
BackgroundImageRenderMode	Integer	No	The render mode to use when the aspect ratio of a video is different from that of the window. This parameter is defined the same as `RenderMode` in `MixLayoufList` .
DefaultSubBackgroundImage	String	No	The URL of the background image for a window. The image must be in JPG or PNG format and cannot be larger than 5 MB. If the image's aspect ratio is different from that of the window, the image will be rendered according to the value of `RenderMode` .
WaterMarkList	Array of WaterMark	No	The watermark layout. Up to 25 watermarks are supported.
RenderMode	Integer	No	The render mode to use when the aspect ratio of a video is different from that of the window. This parameter is invalid if a custom layout is used. It is defined the same as `RenderMode` in `MixLayoufList` .
MaxResolutionUserAlign	Integer	No	This parameter is valid only if the screen sharing layout is used. If you set it to `1` , the large video window will appear on the right and the small window on the left. The default value is `0` .

MixTranscodeParams

The audio and video parameters for recording.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
VideoParams	VideoParams	No	The video transcoding parameters for recording. If you set this parameter, you must specify all its fields. If you do not set it, the default will be used.
AudioParams	AudioParams	No	The audio transcoding parameters for recording. If you set this parameter, you must specify all its fields. If you do not set it, the default will be used.

MixUserInfo

The user information.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
UserId	String	Yes	User ID.
RoomId	String	No	If a dynamic layout is used, the value of this parameter should be the ID of the main room. If a custom layout is used, the value of this parameter should be the same as the room ID in `MixLayoutList` .
RoomIdType	Integer	No	The type of the `RoomId` parameter. 0: integer; 1: string.

QualityData

The quality data returned by ES.

Used by actions: DescribeCallDetailInfo.

Name	Type	Description
Content	Array of TimeValue	The quality data.
UserId	String	The user ID.
PeerId	String	The remote user ID. An empty string indicates that the data is upstream data.

		Note: This field may return null, indicating that no valid values can be obtained.
DataType	String	The data type.

RecordParams

The on-cloud recording parameters.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
RecordMode	Integer	Yes	The recording mode. 1: Single-stream recording. Records the audio and video of each subscribed user (`UserId`) in a room and saves the recording files to the cloud. 2: Mixed-stream recording. Mixes the audios and videos of subscribed users (`UserId`) in a room, records the mixed stream, and saves the recording files to the cloud.
MaxIdleTime	Integer	No	The time period (seconds) to wait to automatically stop recording after there are no anchors (users who publish streams) in a room. Value range: 5-86400 (max 24 hours). Default value: 30.
StreamType	Integer	No	The media type of the streams to record. 0: Audio and video streams (default) 1: Audio streams only 2: Video streams only
SubscribeStreamUserIds	SubscribeStreamUserIds	No	The allowlist/blocklist for stream subscription.
OutputFormat	Integer	No	The output format. `0` (default): HLS; `1` : HLS + MP4; `2` : HLS + AAC; `3` : MP4, `4` : AAC. This parameter is invalid if you save recording files to VOD. To specify the format of files

			saved to VOD, use `MediaType` of `TencentVod` .
AvMerge	Integer	No	Whether to merge the audio and video of a user in the single-stream recording mode. 0 (default): Do not mix the audio and video; 1: Mix the audio and video into one TS file. You don't need to specify this parameter for mixed-stream recording, which merges audios and videos by default.
MaxMediaFileDuration	Integer	No	The maximum file duration allowed (minutes). If the output format is AAC or MP4, and the maximum file duration is exceeded, the file will be segmented. Value range: 1-1440. Default value: 1440 (24 hours). The maximum file size allowed is 2 GB. If the file size exceeds 2 GB, or the file duration exceeds 24 hours, the file will also be segmented. This parameter is invalid if the output format is HLS.
MediaId	Integer	No	The type of stream to record. `0` (default): The primary stream and substream; `1` : The primary stream; `2` : The substream.

RoomState

The room information.

Used by actions: DescribeRoomInfo.

Name	Type	Description
CommId	String	The call ID, which uniquely identifies a call.
RoomString	String	The room ID.
CreateTime	Integer	The room creation time.
DestroyTime	Integer	The room termination time.

IsFinished	Boolean	Whether the room is terminated.
UserId	String	The user ID of the room creator.

RowValues

Two-dimensional array of SeriesInfo type

Used by actions: DescribeTRTCMarketQualityData, DescribeTRTCMarketScaleData, DescribeTRTCRealTimeQualityData, DescribeTRTCRealTimeScaleData.

Name	Type	Required	Description
RowValue	Array of Integer	No	Data value

ScaleInfomation

The room and user number.

Used by actions: DescribeScaleInfo.

Name	Type	Description
Time	Integer	Start time for each day
UserNumber	Integer	The number of users. If a user enters a room multiple times, it will be counted as one user. Note: This field may return null, indicating that no valid values can be obtained.
UserCount	Integer	The number of room entries. Every time a user enters a room, it will be counted as one room entry. Note: This field may return null, indicating that no valid values can be obtained.
RoomNumbers	Integer	The total number of rooms of the application on a day. Note: This field may return null, indicating that no valid values can be obtained.

SeriesInfos

SeriesInfos type

Used by actions: DescribeTRTCMarketQualityData, DescribeTRTCMarketScaleData, DescribeTRTCRealTimeQualityData, DescribeTRTCRealTimeScaleData.

Name	Type	Description
Columns	Array of String	Data columns
Values	Array of RowValues	Data values

SingleSubscribeParams

The information of a single stream relayed.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
UserMediaStream	UserMediaStream	Yes	The stream information.

StorageFile

The information of the recording files, which is returned by the `DescribeCloudRecording` API.

Used by actions: DescribeCloudRecording.

Name	Type	Description
UserId	String	The user whose stream is recorded into the file. In the mixed-stream recording mode, this parameter will be empty. Note: This field may return `null`, indicating that no valid values can be obtained.
FileName	String	The filename.
TrackType	String	The type of the media recorded. video audio audio_video Note: This field may return `null`, indicating that no valid values can be obtained.
BeginTimeStamp	Integer	The start time (Unix timestamp) of the recording file.

StorageParams

The storage parameters.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
CloudStorage	CloudStorage	No	The account information for third-party storage. Please note that if you save files to COS, a recording-to-COS fee will be incurred. For details, see the document "Billing of On-Cloud Recording". If you save files to VOD, there won't be such a fee.
CloudVod	CloudVod	No	The account information for VOD storage.

SubscribeStreamUserIds

The subscription allowlist/blocklist. You cannot specify an allowlist and a blocklist for audio/video subscription at the same time. The maximum number of streams one can receive at the same time is 25. When streams are mixed, up to 24 videos are supported. You can use `.*$` to specify user IDs with the same prefix, but make sure there aren't users whose IDs contain ".*$" and are exactly the same as the prefix you pass in. If there are, TRTC will only allow or block those users.

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
SubscribeAudioUserIds	Array of String	No	The allowlist for audio subscription. For example, `["1", "2", "3"]` means to only subscribe to the audios of users 1, 2, and 3, and ["1.*$"] means to only subscribe to the audios of users whose ID prefix is `1`. If this parameter is left empty, the audios of all anchors in the room will be received. The array can contain at most 32 elements.
UnSubscribeAudioUserIds	Array of String	No	The blocklist for audio subscription. For example, `["1", "2", "3"]` means to not subscribe to the audios of users 1, 2, and 3, and `["1.*$"]` means to not subscribe to users whose ID prefix is `1`. If this parameter is left empty, the audios of all anchors in the room will be received. The array can contain at most 32 elements.

SubscribeVideoUserIds	Array of String	No	The allowlist for video subscription. For example, `["1", "2", "3"]` means to only subscribe to the videos of users 1, 2, and 3, and `["1.*$"]` means to only subscribe to the videos of users whose ID prefix is `1`. If this parameter is left empty, the videos of all anchors in the room will be received. The array can contain at most 32 elements.
UnSubscribeVideoUserIds	Array of String	No	The blocklist for video subscription. For example, `["1", "2", "3"]` means to not subscribe to the videos of users 1, 2, and 3, and `["1.*$"]` means to not subscribe to the videos of users whose ID prefix is `1`. If this parameter is left empty, the videos of all anchors in the room will be received. The array can contain at most 32 elements.

TRTCDataResult

TRTC Data Dashboard/Real-Time Monitoring API output parameters

Used by actions: DescribeTRTCMarketQualityData, DescribeTRTCMarketScaleData, DescribeTRTCRealTimeQualityData, DescribeTRTCRealTimeScaleData.

Name	Type	Description
StatementID	Integer	StatementID value, fixed at 0 for Monitoring Dashboard.
Series	Array of SeriesInfos	Query result data, returned in Columns-Values format.
Total	Integer	Total value, fixed at 1 for Monitoring Dashboard.

TencentVod

The Tencent Cloud VOD parameters.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
Procedure	String	No	The operation to perform on the media uploaded. The value of this parameter is the name of a task flow template. You can create a custom task flow template in Tencent Cloud VOD.

ExpireTime	Integer	No	The expiration time of the media file, which is a time period (seconds) from the current time. For example, `86400` means to save the media file for one day. To save the file permanently, set this parameter to `0`.
StorageRegion	String	No	The storage region. Set this parameter if you have special requirements on the storage region.
ClassId	Integer	No	The category ID, which is returned after you create a category by calling an API. You can use categories to manage media files. The default value is `0`, which means others.
SubAppId	Integer	No	The VOD subapplication ID. If you need to access a resource in a subapplication, set this parameter to the subapplication ID; otherwise, leave it empty.
SessionContext	String	No	The task flow context, which is passed through after the task is completed.
SourceContext	String	No	The upload context, which is passed through after upload is completed.
MediaType	Integer	No	The format of recording files uploaded to VOD. `0` (default): MP4; `1`: HLS; `2`: AAC (valid only if `StreamType` is `1`); `3`: HLS+MP4; `4`: HLS+AAC.
UserDefineRecordId	String	No	The custom prefix of recording files. This parameter is valid only if recording files are uploaded to VOD. It can contain letters, numbers, underscores, and hyphens and cannot exceed 64 bytes. This prefix and the automatically generated filename are connected with `__UserId_u_`.

TimeValue

The quality data, which consists of the `time` and `value` parameters.

Used by actions: DescribeCallDetailInfo.

Name	Type	Description
Time	Integer	The UNIX timestamp (seconds), such as `1590065877`.
Value	Float	The metric value. For example, if the video capturing frame rate (`bigvCapFps`) at the time `1590065877` is `0`, the value of this parameter will be `0`.

TrtcUsage

The TRTC audio/video duration generated in a certain time period.

Used by actions: DescribeMixTranscodingUsage, DescribeRecordingUsage, DescribeRelayUsage, DescribeTrtcUsage.

Name	Type	Description
TimeKey	String	The time point in the format of `YYYY-MM-DD HH:mm:ss`. If more than one day is queried, `HH:mm:ss` is `00:00:00`.
UsageValue	Array of Float	The usage (minutes). Each element of this parameter corresponds to an element of `UsageKey` in the order they are listed.

UserInformation

The user information, including when the user entered/left the room.

Used by actions: DescribeCallDetailInfo, DescribeUserInfo.

Name	Type	Description
RoomStr	String	The room ID.
UserId	String	The user ID.
JoinTs	Integer	The time when the user entered the room.
LeaveTs	Integer	The time when the user left the room. If the user is still in the room, the current time will be returned.
DeviceType	String	The device type.
SdkVersion	String	The SDK version number.
ClientIp	String	The client IP address.
Finished	Boolean	Whether a user has left the room.

UserMediaStream

The stream information.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
UserInfo	MixUserInfo	No	The user information.
StreamType	Integer	No	The stream type. 0: Camera; 1: Screen sharing. If you do not pass this parameter, 0 will be used.

VideoEncode

The video encoding parameters.

Used by actions: StartPublishCdnStream, UpdatePublishCdnStream.

Name	Type	Required	Description
Width	Integer	Yes	The width of the output stream (pixels). This parameter is required if audio and video are relayed. Value range: [0, 1920].
Height	Integer	Yes	The height of the output stream (pixels). This parameter is required if audio and video are relayed. Value range: [0, 1080].
Fps	Integer	Yes	The frame rate (fps) of the output stream. This parameter is required if audio and video are relayed. Value range: [0, 60].
BitRate	Integer	Yes	The bitrate (Kbps) of the output stream. This parameter is required if audio and video are relayed. Value range: [0, 10000].
Gop	Integer	Yes	The GOP (seconds) of the output stream. This parameter is required if audio and video are relayed. Value range: [1, 5].

VideoEncodeParams

Video transcoding parameters

Used by actions: StartStreamIngest.

Name	Type	Required	Description
Width	Integer	Yes	Width. Value range [0,1920], unit is pixel value.

Height	Integer	Yes	Height. Value range [0,1080], unit is pixel value.
Fps	Integer	Yes	Frame Rate. Value range [1,60], indicating that the frame rate can be selected from 1 to 60fps.
BitRate	Integer	Yes	Bitrate. Value range [1,10000], unit is kbps.
Gop	Integer	Yes	Gop. Value range [1,2], unit is second.

VideoParams

The video transcoding parameters for recording.

Used by actions: CreateCloudRecording.

Name	Type	Required	Description
Width	Integer	Yes	The video width in pixels. The value of this parameter cannot be larger than 1920, and the result of multiplying `Width` and `Height` cannot exceed 1920 x 1080. The default value is `360`.
Height	Integer	Yes	The video height in pixels. The value of this parameter cannot be larger than 1920, and the result of multiplying `Width` and `Height` cannot exceed 1920 x 1080. The default value is `640`.
Fps	Integer	Yes	The video frame rate. Value range: [1, 60]. Default: 15.
BitRate	Integer	Yes	The video bitrate (bps). Value range: [64000, 8192000]. Default: 550000.
Gop	Integer	Yes	The keyframe interval (seconds). Default value: 10.

WaterMark

The watermark layout.

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
WaterMarkType	Integer	No	The watermark type. 0 (default): image; 1: text (not supported yet).
WaterMarkImage	WaterMarkImage	No	The information of watermark images. This parameter is required if the watermark type is

			image.
WaterMarkChar	WaterMarkChar	No	The information of the text watermark. This parameter is required if `WaterMarkType` is `1`.
WaterMarkTimestamp	WaterMarkTimestamp	No	The information of the timestamp watermark. This parameter is required if `WaterMarkType` is `2`.

WaterMarkChar

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
Top	Integer	Yes	The Y coordinate of the text watermark from the top left.
Left	Integer	Yes	The X coordinate of the text watermark from the top left.
Width	Integer	Yes	The watermark width (pixels).
Height	Integer	Yes	The watermark height (pixels).
Chars	String	Yes	The text.
FontSize	Integer	No	The font size (pixels). The default value is `14`.
FontColor	String	No	The text color. The default color is white.
BackGroundColor	String	No	The background color. If this parameter is empty, the background will be transparent (default).

WaterMarkImage

The information of watermark images.

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
WaterMarkUrl	String	Yes	The download URLs of the watermark images, which must be in JPG or PNG format and cannot be larger than 5 MB.

Top	Integer	Yes	The Y axis of the image's top-left corner. Value range: [0, 2560]. The value cannot be larger than the canvas height.
Left	Integer	Yes	The X axis of the image's top-left corner. Value range: [0, 2560]. The value cannot be larger than the canvas width.
Width	Integer	Yes	The relative width of the image. Value range: [0, 2560]. The sum of the values of this parameter and `Left` cannot exceed the canvas width.
Height	Integer	Yes	The relative height of the image. Value range: [0, 2560]. The sum of the values of this parameter and `Top` cannot exceed the canvas height.

WaterMarkTimestamp

Used by actions: CreateCloudRecording, ModifyCloudRecording.

Name	Type	Required	Description
Pos	Integer	Yes	The position of the timestamp watermark. Valid values: `0` (top left), `1` (top right), `2` (bottom left), `3` (bottom right), `4` (top center), `5` (bottom center), `6` (center).
TimeZone	Integer	No	The time zone. The default is UTC+8.

Error Codes

最終更新日：：2024-03-11 11:06:36

Feature Description

If there is an Error field in the response, it means that the API call failed. For example:

```
{
"Response": {
"Error": {
"Code": "AuthFailure.SignatureFailure",
"Message": "The provided credentials could not be validated. Please check your si
gnature is correct."
},
"RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
}
}
```

Code in Error indicates the error code, and Message indicates the specific information of the error.

Error Code List

Common Error Codes

Error Code	Description
ActionOffline	This API has been deprecated.
AuthFailure.InvalidAuthorization	`Authorization` in the request header is invalid.
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type).
AuthFailure.MFAFailure	MFA failed.
AuthFailure.SecretIdNotFound	Key does not exist. Check if the key has been deleted or disabled in the console, and if not, check if the key is correctly entered. Note that whitespaces should not exist before or after the key.
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes. Please

	ensure your current local time matches the standard time.
AuthFailure.SignatureFailure	Invalid signature. Signature calculation error. Please ensure you've followed the signature calculation process described in the Signature API documentation.
AuthFailure.TokenFailure	Token error.
AuthFailure.UnauthorizedOperation	The request is not authorized. For more information, see the CAM documentation.
DryRunOperation	DryRun Operation. It means that the request would have succeeded, but the DryRun parameter was used.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	The API does not exist.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
InvalidRequest	The multipart format of the request body is incorrect.
IpInBlacklist	Your IP is in uin IP blacklist.
IpNotInWhitelist	Your IP is not in uin IP whitelist.
LimitExceeded	Quota limit exceeded.
MissingParameter	A parameter is missing.
NoSuchProduct	The product does not exist.
NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
RequestLimitExceeded.GlobalRegionUinLimitExceeded	Uin exceeds the frequency limit.
RequestLimitExceeded.IPLimitExceeded	The number of ip requests exceeds the frequency limit.
RequestLimitExceeded.UinLimitExceeded	The number of uin requests exceeds the frequency

	limit.
RequestSizeLimitExceeded	The request size exceeds the upper limit.
ResourceInUse	Resource is in use.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	Resource is unavailable.
ResponseSizeLimitExceeded	The response size exceeds the upper limit.
ServiceUnavailable	Service is unavailable now.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	HTTP(S) request protocol error; only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

Service Error Codes

Error Code	Description
AuthFailure	CAM signature/authentication error.
AuthFailure.UnRealNameAuthenticated	Identity verification has not been completed, so this operation is not allowed.
AuthFailure.UnsupportedOperation	Unsupported operation.
FailedOperation.CRUnsupportMethod	Unsupported on-cloud recording method.
FailedOperation.NotRtmpFunction	
FailedOperation.QueryTaskInfoFailed	Query task failed
FailedOperation.RestrictedConcurrency	Maximum number of concurrent on-cloud recording tasks reached. Contact us to raise the limit.
FailedOperation.RoomNotExist	The room does not exist.

FailedOperation.SdkAppIdNotExist	The application ID does not exist.
FailedOperation.TaskExist	Task already exists
FailedOperation.TaskFinished	Task has ended when calling the interface.
FailedOperation.UserNotExist	The user is not in the room.
InternalError.CRInternalError	On-cloud recording internal error.
InternalError.DBError	An error occurred while querying the database.
InternalError.EsQueryError	An error occurred during an ES query.
InternalError.GetRoomCacheIpError	Failed to query the room.
InternalError.GetRoomFromCacheError	Failed to get room information.
InternalError.HttpParaseFalied	Failed to parse the HTTP request.
InternalError.HttpParseFailed	HTTP request parsing failed.
InternalError.InterfaceErr	API error.
InternalError.InternalError	Internal error, please retry.
InternalError.MethodErr	Unsupported method.
InternalError.UserNotExist	The user is not in the room.
InvalidParameter.BodyParamsError	Failed to parse body parameters.
InvalidParameter.EncodeParams	Invalid `EncodeParams` .
InvalidParameter.EndTs	Invalid `EndTs` .
InvalidParameter.OutOfRange	Parameter value is out of range.
InvalidParameter.PageNumber	Invalid `PageNumber` .
InvalidParameter.PageSize	Invalid `PageSize` .
InvalidParameter.PageSizeOversize	The value of `PageSize` exceeds 100.
InvalidParameter.QueryScaleOversize	The query period exceeds the limit.
InvalidParameter.RoomId	`RoomId` is incorrect.
InvalidParameter.SdkAppId	`SdkAppId` is incorrect.

InvalidParameter.SdkAppid	Inoperable `SdkAppid` .
InvalidParameter.StartTimeExpire	The start time for query exceeded the limit.
InvalidParameter.StartTimeOversize	The query start time exceeds the range allowed by the current dashboard edition. For details, see https://www.tencentcloud.com/document/product/647/81331?from_cn_redirect=1
InvalidParameter.StartTs	Invalid `StartTs` .
InvalidParameter.StartTsOversize	The start time for query exceeded the limit.
InvalidParameter.StrRoomId	StrRoomId parameter error.
InvalidParameter.TaskId	TaskId parameter error.
InvalidParameter.UrlParamsError	Failed to parse URL parameters.
InvalidParameter.UserId	Invalid `UserId` .
InvalidParameter.UserIds	`UserIds` is incorrect.
InvalidParameter.UserIdsMorethanSix	The number of users exceeds 6.
InvalidParameter.UserSig	
InvalidParameterValue.RoomId	Invalid RoomId.
MissingParameter.AccessKey	`AccessKey` parameter missing.
MissingParameter.AppId	`AppId` missing.
MissingParameter.Bucket	`Bucket` parameter missing.
MissingParameter.CloudStorage	`CloudStorage` parameter missing.
MissingParameter.CommId	`CommId` is missing.
MissingParameter.CommIdOrSdkAppId	`SdkAppId` or `CommID` missing.
MissingParameter.EndTs	`endTS_s` is missing.
MissingParameter.RecordMode	`RecordMode` parameter missing.
MissingParameter.RecordParams	`RecordParams` parameter missing.
MissingParameter.Region	`Region` parameter missing.

MissingParameter.RoomId	`RoomId` is missing.
MissingParameter.RoomNum	`RoomNum` is missing.
MissingParameter.SdkAppId	`SdkAppId` is missing.
MissingParameter.SecretKey	`SecretKey` parameter missing.
MissingParameter.StartTs	`startTS_s` is missing.
MissingParameter.StorageParams	`StorageParams` parameter missing.
MissingParameter.StreamType	`StreamType` parameter missing.
MissingParameter.TaskId	`TaskId` parameter missing.
MissingParameter.UserId	Missing `UserId` parameter.
MissingParameter.UserIds	`UserIds` is missing.
MissingParameter.UserSig	`UserSig` parameter missing.
MissingParameter.Vendor	`Vendor` parameter missing.
ResourceInsufficient.RequestRejection	Insufficient resources.
UnauthorizedOperation.SdkAppId	No permission to manipulate `SdkAppId` .

Appendix
Event ID Mapping Table

最終更新日：：2023-10-11 20:07:37

SDK Event Mapping Table

Event ID	First Parameter Value	Second Parameter Value	Specific Event
1001	0	-1	The user unplugged wired earphone
1001	1	-1	The user plugged wired earphone
1002	0	-1	The earphone has disconnected from Bluetooth connection
1002	1	-1	The earphone initiated a Bluetooth connection
1003	0	-1	The user has disconnected from the network
1003	1	-1	The user is using Wi-Fi network
1003	2	-1	The user is using 4G network
1003	3	-1	The user is using 3G network
1003	4	-1	The user is using 2G network
1003	5	-1	The user is using wired network
2001	0	-1	The application has been switched to run in the foreground
2001	1	-1	The application has been switched to run in the background
2002	1	-1	The application does not have network access
2002	2	-1	The application does not have permission to read local file
2002	3	-1	The application does not have permission to write local file

Event ID	First Parameter Value	Second Parameter Value	Specific Event
2002	4	-1	The application does not have permission to record audio
2002	5	-1	The application does not have permission to use camera
3001	0	-1	The mic started capturing audio
3001	1	-1	Muted
3001	2	-1	Mic capturing was disabled
3001	3	-1	Unmuted
3002	0	-1	Canceled mute playback
3002	1	-1	Mute playback mode
3003	10	-1	Audio codec: aac
3003	11	-1	Audio codec: opus
3004	0	-1	Speaker
3004	1	-1	Receiver
4001	0	-1	Enabled front camera successfully
4001	1	-1	Enabled rear camera successfully
4002	0	-1	Failed to enable front camera
4002	1	-1	Failed to enable rear camera
4003	Resolution width	Resolution height	Video resolution has been switched
4004	0	-1	Switched software encoding mode (SW)
4004	1	-1	Switched to hardware encoding mode (HW)
4005	0	-1	Switched software decoding mode (SW)
4005	1	-1	Switched to hardware decoding mode (HW)

Event ID	First Parameter Value	Second Parameter Value	Specific Event
4006	0	-1	The user enabled video upstreaming
4006	1	-1	The user disabled video upstreaming
4007	Resolution width	Resolution height	The user switched video resolution
4008	Video frame rate	-1	The user switched video frame rate
4009	Video bitrate	-1	The user switched video bitrate
4010	1	-1	RPS (reference picture selection) was disabled due to insufficient performance or poor network
4011	-1	-1	Failed to start hardware decoder
4012	-1	-1	Switched to software decoder as there is too much hardware decoder buffer
4013	Number of frames failed to be decoded (3s)	0	(Software) decoding failed
4013	Number of frames failed to be decoded (3s)	1	(Hardware) decoding failed
4014	0	-1	The playback client enabled remote image
4014	1	-1	The playback client disabled remote image
4015	0	-1	The primary video stream was unsubscribed from
4015	1	-1	The primary video stream was subscribed to
5001	-1	-1	Started entering room
5002	0	-1	Failed to obtain IP address info
5002	1	-1	Obtained IP address info successfully
5003	0	-1	Failed to enter room
5003	1	-1	Entered room successfully
5004	-1	-1	Started sending video data to the cloud

Event ID	First Parameter Value	Second Parameter Value	Specific Event
5005	-1	-1	Connection to CVM timed out
5006	-1	-1	The first video packet was received
5007	-1	-1	Started playing the first video frame
5008	0	-1	Failed to exit room
5008	1	-1	Exited room successfully
5009	-1	-1	Sent first audio frame
6001	1	0	(Qos: local mode - smoothness preferred) video call
6001	1	1	(Qos: local mode - smoothness preferred) live streaming
6001	1	2	(Qos: local mode - smoothness preferred) audio call
6001	1	3	(Qos: local mode - smoothness preferred) voice chat room
6001	2	0	(Qos: local mode - definition preferred) video call
6001	2	1	(Qos: local mode - definition preferred) live streaming
6001	2	2	(Qos: local mode - definition preferred) audio call
6001	2	3	(Qos: local mode - definition preferred) voice chat room
6001	101	0	(Qos: cloud control mode - smoothness preferred) video call
6001	101	1	(Qos: cloud control mode - smoothness preferred) live streaming
6001	101	2	(Qos: cloud control mode - smoothness preferred) audio call
6001	101	3	(Qos: cloud control mode - smoothness preferred) voice chat room
6001	102	0	(Qos: cloud control mode - definition preferred) video call

Event ID	First Parameter Value	Second Parameter Value	Specific Event
6001	102	1	(Qos: cloud control mode - definition preferred) live streaming
6001	102	2	(Qos: cloud control mode - definition preferred) audio call
6001	102	3	(Qos: cloud control mode - definition preferred) voice chat room
7000	0	-1	Entered room normally
7000	1	-1	Entered room again
7001	0	-1	Exited room normally
7001	1	-1	Timed out
7001	2	-1	Kicked out

WebRTC Event Mapping Table

Event ID	First Parameter Value	Second Parameter Value	Specific Event
36864	-1	-1	Signaling channel has disconnected, which is reported by the backend
32768	-1	-1	Enabled video
32769	-1	-1	Enabled audio
32770	-1	-1	Disabled video
32771	-1	-1	Disabled audio
32772	-1	-1	Disabled audio (still send mute packets)
32773	-1	-1	Disabled video (still send black screen packets)
32774	-1	-1	Enabled audio
32775	-1	-1	Enabled video

Event ID	First Parameter Value	Second Parameter Value	Specific Event
32776	-1	-1	Subscribed to video
32777	-1	-1	Subscribed to audio
32778	-1	-1	Unsubscribed from video
32779	-1	-1	Unsubscribed from audio
32780	-1	-1	Switched camera
32781	-1	-1	Switched mic
32782	-1	-1	Updated video
32783	-1	-1	Updated audio
32784	-1	-1	Disabled remote video
32785	-1	-1	Disabled remote audio
32786	-1	-1	Enabled remote video
32787	-1	-1	Enabled remote audio
32788	-1	-1	Entered room
32789	-1	-1	Exited room
32790	-1	-1	Signaling channel has disconnected
32791	-1	-1	Connected signaling channel successfully
32792	-1	-1	Media transmission channel has disconnected
32793	-1	-1	Connected media transmission channel successfully

Exceptional Experience ID Mapping Table

Experience ID	Description
1	Room entry was slow
2	Unable to enable video
3	Unable to enable audio

Experience ID	Description
4	Video lagged
5	Audio lagged

Exceptional Room Dismissal Event ID Mapping Table

Note: events in this table are reported after the room is dismissed; therefore, the events can be queried only after the room is dismissed.

Exceptional Event ID	Description
1001	Failed to initialize audio device
1002	Failed to initialize video device
1003	Failed to request token
1004	Failed to request access server
1005	Failed to enter room
1006	Room entry eventually failed (including failures in any stage, such as SDK verification failure)
1007	The user IP changed, and the IP in the signaling stage was different from that in the data stage
1008	Empty room entry parameter. Please check whether valid parameters were passed into the `enterRoom:appScene:` API when it was called
1009	Incorrect room entry parameter `sdkAppId`
1010	Incorrect room entry parameter `RoomId`
1011	Incorrect room entry parameter `UserID`
1012	Incorrect room entry parameter `UserSig`
1013	The room entry request timed out. Please check the network
1014	Unavailable service. Please check whether the remained validity period in minutes in the package is greater than 0 and whether the Tencent Cloud account is in arrears
1015	Failed to enable the camera; for example, the configuration program (driver) of the camera on Windows or macOS was exceptional. In this case, please try to disable and then enable the camera again, restart the device, or update the configuration program

Exceptional Event ID	Description
1016	The camera permission is not granted. This error usually occurs on mobile devices and may be caused by permission denial by user
1017	Incorrect camera parameter settings (unsupported value or other causes)
1018	The camera is being used. Please try to enable another camera
1019	Failed to enable the mic; for example, the configuration program (driver) of the mic on Windows or macOS was exceptional. In this case, please try to disable and then enable the mic again, restart the device, or update the configuration program
1020	The mic permission is not granted. This error usually occurs on mobile devices and may be caused by permission denial by user
1021	Failed to set mic parameters
1022	The mic is being used. For example, if the mobile device is on a call, the mic will fail to be enabled
1023	Failed to enable the speaker; for example, the configuration program (driver) of the speaker on Windows or macOS was exceptional. In this case, please try to disable and then enable the speaker again, restart the device, or update the configuration program
1024	Failed to start screen sharing. If this error occurs on a mobile device, it may be caused by permission denial by user; if on Windows or macOS, please check whether parameters of the screen sharing API meet the requirements
1025	Screen sharing failed. Please use Android 5.0 or above if the device is on Android or use iOS 11.0 or above if the device is on iOS
1026	No permission to upstream substream
1027	Another user is upstreaming substream
1028	Screen sharing was stopped by the system
1029	Failed to encode video frames; for example, when a user switches from an iOS device to another device, the hardware encoder may be released by the system; and after the user switches back, this error may be thrown before the hardware encoder is restarted
1030	Unsupported video resolution
1031	Failed to encode audio frames; for example, the SDK could not process the custom audio data passed in

Exceptional Event ID	Description
1032	Unsupported audio sample rate

Real-Time Exceptional Event ID Mapping Table

Note: as it takes time to collect statistics, there may be a delay of less than 5 minutes.

Exceptional Event ID	Description
2001	The system CPU utilization was too high
2002	The application CPU utilization was too high
2003	The upstream network latency was too high
2004	The upstream network jitter was too high
2005	The packet loss rate of upstream audio was too high
2006	The volume level of audio capturing was 0
2007	The packet loss rate of upstream big image was too high
2008	The packet loss rate of upstream small image was too high
2009	The packet loss rate of upstream substream image was too high
2010	The FPS capturing of upstream big image was exceptional
2011	The FPS capturing of upstream small image was exceptional
2012	The FPS capturing of upstream substream image was exceptional
2013	The downstream network latency was too high
2014	The downstream network jitter was too high
2015	The packet loss rate of downstream audio was too high
2016	The volume level of audio playback was 0
2017	The packet loss rate of downstream big image was too high
2018	The packet loss rate of downstream small image was too high
2019	The packet loss rate of downstream substream image was too high

Exceptional Event ID	Description
2020	The FPS rendering of downstream big image was exceptional
2021	The FPS rendering of downstream small image was exceptional
2022	The FPS rendering of downstream substream image was exceptional
2023	The downstream audio lagged
2024	The downstream big image lagged
2025	The downstream small image lagged
2026	The downstream substream image lagged