Intelligent Security API (Metadata)

Developer Guide

Legal Information

Contents

Chapter 1 Overview

1.1 Introduction

Metadata is the data that describes other data. In the video monitoring filed, metadata usually contains intelligent structured information (e.g., real-time temperature measurement, fire source detection, ship detection, behavior analysis, ANPR, queue management, and face capture) which can help users to understand the videos.

1.2 Update History

Summary of Changes in Version 2.6_Mar., 2020

Related Product: iDS-2SR8141IXS-AB(40X) Radar PTZ Camera with Software Version 5.5.20

1. Extended the metadata configuration capability message *XML_Cap_MetadataCfg* :
   added a value "radarDetection" (radar detection) to the node <**type**>;
   added a node <**isSupportSubscribeType**> (whether the device supports subscribing metadata by type).
2. Extended the metadata batch configuration message *XML_MetadataCfg* and metadata single configuration message *XML_SingleMetadataCfg* :
   added a value "radarDetection" (radar detection) to the node <**type**>
3. Added general metadata message of radar detection and radar behavior analysis metadata message, i.e., *XML_Radar_Metadata* and *XML_Metadata_RadarBehaviorAnalysis* .
4. Added a response code 0x4000a016 (This metadata type is not supported to be subscribed) to the status code 4 (Invalid Operation), see details in *Response Codes of Text Protocol* .
5. Added an API calling flow of subscribing metadata by type, see details in *Subscribe Metadata by Type* .

Summary of Changes in Version 2.0_Jan., 2019

Related Product Type: Speed Dome V5.6.0 (H3)

1. Extended metadata message example of real-time target in behavior analysis ( ): added two node <**Property**> (line crossing detection event type) and <**ruleID**> (rule ID).
2. Extended metadata message example of real-time target in ANPR ( ): added four nodes <**Property**> (vehicle color, vehicle type, vehicle brand, and vehicle sub brand).
3. Added metadata message examples of waiting time detection rule, real-time target in waiting time detection, people queuing-up rule, real-time target in people queuing-up, face capture rule, and real-time target in face capture to .
4. Extended device capability (*XML_DeviceCap* , related URL: GET */ISAPI/System/capabilities*): added a sub node <**isSupportMetadata**> (whether supports metadata) to the node <**SysCap**>.

5. Extended metadata configuration capability (***XML_Cap_MetadataCfg*** , related URL: GET ***/ISAPI/Streaming/channels/<ID>/metadata/capabilities***): added three values "ANPR", "personQueue", and "faceSnap" to the metadata type (<**type**>).
6. Extended the metadata configuration message (***XML_MetadataCfg*** and ***XML_SingleMetadataCfg*** , related URLs: ***/ISAPI/Streaming/channels/<ID>/metadata*** and ***/ISAPI/Streaming/channels/<ID>/Metadata/<type>***): added three values "ANPR", "personQueue", and "faceSnap" to the metadata type (<**type**>).

Summary of Changes in Version 2.0_Mar., 2018

New document.

Chapter 2 Display Metadata on Video

To upload and display metadata on the video without using Hikvision PlayCtrl SDK, we provide a solution based on ISAPI integration and RTSP.

Steps
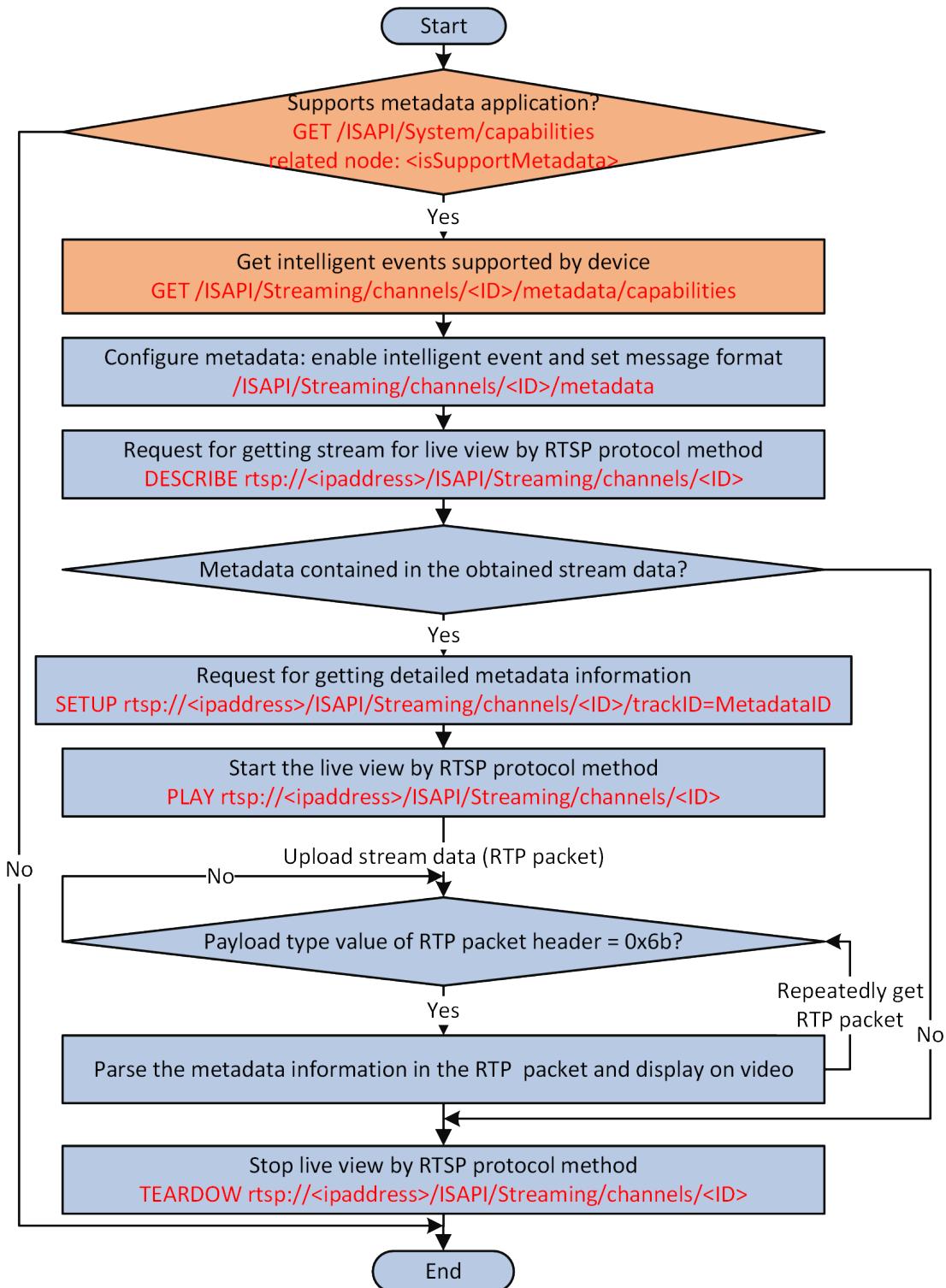
Figure 2-1 API Calling Flow of Displaying Metadata on Video

Note

RTSP is an international protocol, so for its definition, search for the related manuals or specifications in the library or on the network for reference.

1. **Optional:** Call */ISAPI/System/capabilities* by GET method to get the device capability for checking whether the device supports metadata.

   The device capability is returned in the message **XML_DeviceCap** .

   If the node <**isSupportMetadata**> is returned in the message, it indicates that the device supports metadata, and you can perform the following steps.

   Otherwise, it indicates that metadata is not supported by device, please end this task.

2. **Optional:** Call */ISAPI/Streaming/channels/<ID>/metadata/capabilities* by GET method to get the metadata capability for getting the supported intelligent events and message formats.

3. Call */ISAPI/Streaming/channels/<ID>/metadata* by PUT method to enable intelligent event and set message format.

   Note

   You can also call */ISAPI/Streaming/channels/<ID>/Metadata/<type>* by PUT method to configure parameters for a specific metadata type.

4. Call *rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>* by DESCRIBE RTSP method to request for getting stream for live view.

   Example

   Sample URL for getting stream for live view by RTSP method: DESCRIBE rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101 RTSP/1.0

   Stream information (see the example below) is returned by device if succeeded.

```
DESCRIBE rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101 RTSP/1.0
CSeq:0
Accept:application/sdp
Authorization:
User-Agent:NKPlayer-VSPlayer1.0

RTSP/1.0 401 Unauthorized
CSeq: 0
WWW-Authenticate: Digest realm="IP Camera(51289)", nonce="9fe43f1322976c0aa218b0f23f554b44",
stale="FALSE"
Date:  Mon, Dec 18 2017 04:37:30 GMT

DESCRIBE rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101 RTSP/1.0
CSeq:0
Accept:application/sdp
Authorization:Digest username="admin", realm="IP Camera(51289)",
nonce="9fe43f1322976c0aa218b0f23f554b44",
uri="rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101", response="99b683462210bd819c8d6bafb39dd262"
User-Agent:NKPlayer-VSPlayer1.0
```

```
RTSP/1.0 200 OK
CSeq: 0
Content-Type: application/sdp
Content-Length: 737

v=0
o=- 1513571850040093 1513571850040093 IN IP4 10.10.36.212
s=Media Presentation
e=NONE
b=AS:5100
t=0 0
a=control:*
m=video 0 RTP/AVP 96
c=IN IP4 0.0.0.0
b=AS:5000
a=recvonly
a=x-dimensions:1920,1080
a=control:trackID=1
a=rtpmap:96 H264/90000
a=fmtp:96 profile-level-id=420029; packetization-mode=1;
sprop-parameter-sets=Z00AKp2oHgCJ+WbgICAoAAADAAgAAAMBlCA=,aO48gA==
m=audio 0 RTP/AVP 0
c=IN IP4 0.0.0.0
b=AS:50
a=recvonly
a=control:trackID=2
a=rtpmap:0 PCMU/8000
m=application 0 RTP/AVP 107
c=IN IP4 0.0.0.0
b=AS:50
a=recvonly
a=control:trackID=3
a=rtpmap:107 isapi.metadata/90000
a=Media_header:MEDIAINFO=494D4B480102000004000001107101104010 F000000FA00000000000000000000000000
0000000000000;
a=appversion:1.0
```

ⓘ Note

The "a=rtpmap:107 isapi.metadata/90000" in the stream information indicates that the stream contains metadata information, and the "trackID=3" refers to the metadata ID which is used to get the detailed metadata information in step 7.

5. Parse the obtained stream data to judge whether the stream contains the metadata information and get the trackID of metadata if contained.
6. Call *rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>* by SETUP RTSP method to request for getting detailed metadata information.

Example

An example for getting detailed metadata information by SETUP method is shown below for reference.

```
SETUP rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101/trackID=3
RTSP/1.0
Seq:3
Authorization:Digest username="admin", realm="IP Camera(51289)",
nonce="9fe43f1322976c0aa218b0f23f554b44",
uri="rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101",
response="46b39a563fd9977eff83067adc4e587b"
Session:   408703626
Transport: RTP/AVP/TCP;unicast;
User-Agent:NKPlayer-VSPlayer1.0


RTSP/1.0 200 OK Session:
408703626;timeout=60
Transport: RTP/AVP/TCP;unicast;interleaved=6-7;ssrc=14b37590;mode="play"
Date:  Mon, Dec 18 2017 04:37:30 GMT
```

[i] **Note**

Metadata information can be sent with the stream, or alone in the response of RTSP request (must be packaged by RTP), see the format and structure of metadata message to be uploaded in *XML_Video_Metadata* or *JSON_Metadata* .

7. Call *rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>* by PLAY RTSP method to start the live view.

Example

Sample URL for starting live view by RTSP method: PLAY rtsp://10.10.36.160:554/ISAPI/ Streaming/channels/102 RTSP/1.0. And then device starts uploading the RTP packet which contains stream data and metadata (see the message example below).

```
PLAY rtsp://10.10.36.160:554/ISAPI/Streaming/channels/102 RTSP/1.0
CSeq:4
Authorization:Digest username="admin", realm="IP Camera(51289)",
nonce="9fe43f1322976c0aa218b0f23f554b44",
uri="rtsp://10.10.36.160:554/ISAPI/Streaming/channels/102",
response="611cc58b1b42b8df909b57b737a7ad3a"
Session:   408703626
Range:npt=0.000000-
Scale:1.000
User-Agent:NKPlayer-VSPlayer1.0


RTSP/1.0 200 OK
CSeq: 4
Session:     408703626
RTP-Info:
url=trackID=1;seq=24874,url=trackID=2;seq=42360,url=trackID=3;seq=0
Date:  Mon, Dec 18 2017 04:37:31 GMT
```

```
$.....@..n..Ufw.<?xml version="1.0" encoding="UTF-8"?>
<Metadata version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
 <subType>behaviorAnalysis</subType>
 <time>2017-12-18T04:37:31.000+0800</time>
 <DevInfo>
  <ipAddress>10.10.36.212</ipAddress>
  <portNo>554</portNo>
  <macAddress>31:30:2e:31:30:2e</macAddress>
  <channel>1</channel>
  <domainName></domainName>
 </DevInfo>
 <TargetDetection>
  <TargetList></TargetList>
 </TargetDetection>
</Metadata>
```

8. Check whether the type value of uploaded RTP packet is 0x6b according to the description of RTP packet or the value of parameter **payload type** in RTP packet header.
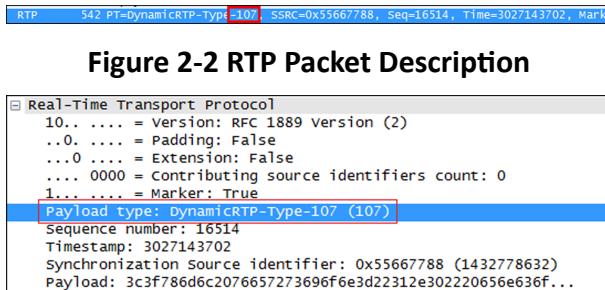
Figure 2-2 RTP Packet Description

Figure 2-3 RTP Packet Header

- If the type value of current RTP packet is 0x6b, it indicates that the packet contains metadata, and perform the following steps.
- If the type value of current RTP packet is not 0x6b, get the next packet and judge again.

9. Parse the metadata information in the RTP packet and display the intelligent information on the video.

10. Call *rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>* by TEARDOW RTSP method to stop the live view.

Example

An example for stopping live view by RTSP method is shown below for reference.

```
TEARDOWN rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101 RTSP/1.0
CSeq:4
Authorization: Digest username="admin", realm="IP Camera(51289)",
nonce="9fe43f1322976c0aa218b0f23f554b44",
uri="rtsp://10.10.36.212:554/ISAPI/Streaming/channels/101",
response="2822238cec4028c34749cf3a48ce7519"
Session:408703626;timeout=60
```

```
User-Agent:NKPlayer-VSPlayer1.0
```

Chapter 3 Subscribe Metadata by Type

You can specify the metadata type (supports type combination) to subscribe the required metadata details, and the details are returned in URI format over RTSP (Real-Time Streaming Protocol).

Steps
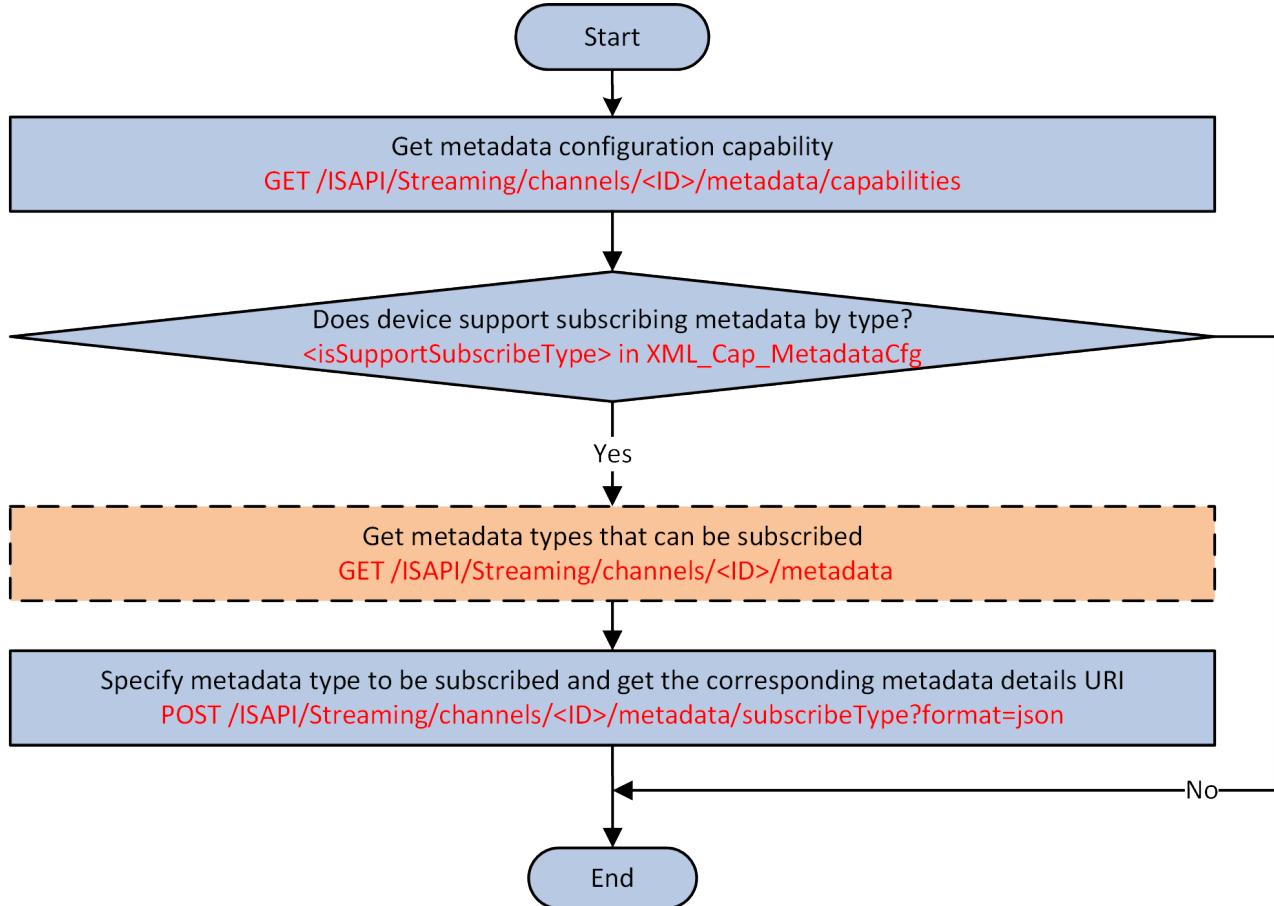
Figure 3-1 API Calling Flow of Subscribe Metadata by Type

1. Call **/ISAPI/Streaming/channels/<ID>/metadata/capabilities** by GET method to get the metadata configuration capability.

   The capability is returned in the message **XML_Cap_MetadataCfg** .

2. Check whether the device supports subscribing metadata by type.
   - When the node **<isSupportSubscribeType>** is returned in the message **XML_Cap_MetadataCfg** , it indicates that the device supports metadata subscription and you can continue to perform the following steps.

- When the message ***XML_Cap_MetadataCfg*** does not contain node
  <**isSupportSubscribeType**>, it indicates that the device does not support metadata
  subscription and please end this task.
3. **Optional:** Call ***/ISAPI/Streaming/channels/<ID>/metadata*** by GET method to get the metadata
types that are supported to be subscribed.
4. Call ***/ISAPI/Streaming/channels/<ID>/metadata/subscribeType?format=json*** by POST method
to specify metadata type to be subscribed and get the crooesponding metadata details URI.

Appendix A. Request URIs

A.1 /ISAPI/System/capabilities

Get device capability.

Request URI Definition

Table A-1 GET /ISAPI/System/capabilities

Method	GET
Description	Get device capability.
Query	None
Request	None.
Response	Succeeded: *XML_DeviceCap* Failed: *XML_ResponseStatus*

A.2 /ISAPI/Streaming/channels/<ID>/metadata/capabilities

Get metadata capability.

Request URI Definition

Table A-2 GET /ISAPI/Streaming/channels/<ID>/metadata/capabilities

Method	GET
Description	Get metadata capability.
Query	None
Request	None
Response	*XML_Cap_MetadataCfg*

Remarks

The <**ID**> in the URI is the channel ID.

A.3 /ISAPI/Streaming/channels/<ID>/metadata

Get or set metadata parameters.

Request URI Definitions

Table A-3 GET /ISAPI/Streaming/channels/<ID>/metadata

Method	GET
Description	Get metadata parameters.
Query	None
Request	None
Response	*XML_MetadataCfg*

Table A-4 PUT /ISAPI/Streaming/channels/<ID>/metadata

Method	PUT
Description	Set metadata parameters.
Query	None
Request	*XML_MetadataCfg*
Response	*XML_ResponseStatus*

Remarks

The <**ID**> in the URI is the channel ID.

A.4 /ISAPI/Streaming/channels/<ID>/metadata/subscribeType? format=json

Specify metadata type to be subscribed and get the corresponding metadata details URI.

Request URI Definition

Table A-5 POST /ISAPI/Streaming/channels/<ID>/metadata/subscribeType?format=json

Method	POST
Description	Specify metadata type to be subscribed and get the corresponding metadata details URI.
Query	**format**: determine the format of request or response message.
Request	*JSON_SubscribeType*
Response	Succeeded: *JSON_RTSPMetadataURI* Failed: *JSON_ResponseStatus*

Remarks

The <**ID**> in the request URI refers to the channel No.

A.5 /ISAPI/Streaming/channels/<ID>/Metadata/<type>

Get or set parameters of a specific metadata type.

Request URI Definition

Table A-6 GET /ISAPI/Streaming/channels/<ID>/Metadata/<type>

Method	GET
Description	Get parameters of a specific metadata type.
Query	None
Request	None
Response	*XML_SingleMetadataCfg*

Table A-7 PUT /ISAPI/Streaming/channels/<ID>/Metadata/<type>

Method	PUT
Description	Set parameters of a specific metadata type.
Query	None
Request	*XML_SingleMetadataCfg*
Response	*XML_ResponseStatus*

Remarks

- The <**ID**> in the request URI refers to the channel ID.
- The <**type**> in the request URI refers to the metadata type, such as "thermometry", "fireDetection", "shipsDetection", "behaviorAnalysis", "ANPR", "personQueue", and "faceSnap".

A.6 rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>

Get basic parameter or session information for live view, or start and stop live view.

Request URL Definition

Table A-8 DESCRIBE rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>

Method	DESCRIBE
Description	Get basic parameters for live view.

Query	None.
Request	None.
Response	None.

Table A-9 SETUP rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>

Method	SETUP
Description	Get session information for live view.
Query	None.
Request	None.
Response	None.

Table A-10 PLAY rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>

Method	PLAY
Description	Start live view.
Query	None.
Request	None.
Response	None.

Table A-11 TEARDOW rtsp://<host>[:port]/ISAPI/Streaming/channels/<ID>

Method	TEARDOW
Description	Stop live view.
Query	None.
Request	None.
Response	None.

Remarks

The <ID> in the URL is defined as (channel No.)*100+(stream type value).

channel No.

For analog channel, the No. starts from 1, and for digital channel, the No. starts from the last analog channel No.

E.g., if the device has 16 analog channels and 16 digital channels, the analog channel No. is between 1 and 16, and the digital channel No. is between 17 and 32.

stream type value

The stream type values contain 1, 2, and 3. 1-main stream, 2-sub-stream, 3-third stream.

E.g., if ID is 101, it indicates the main stream of channel No.1; if ID is 102, it indicates the sub-stream of channel No. 2; if ID is 1601, it indicates the main stream of channel 16;...

Appendix B. Request and Response Messages

B.1 JSON_Metadata

JSON message about general metadata

```
{
  "Metadata":{
    "type":"",
/*required, string, information type to be uploaded: "ruleTarget"-upload rules*/
    "subType":"",
/*optional, string, event type: "heatmap"-heat map (crowd trend analysis), "framesPeopleCounting"-regional people
counting, "PeopleCounting"-people counting*/
    "time":"",
/*required, string, time in ISO 8601 time format, e.g., "2017-01-01T00:00:00+08:00"*/
    "DevInfo":{
/*optional, device information, it is used to distinguish devices across domains and multicasting*/
      "ipAddress":"",
      "portNo":"",
      "macAddress":"",
      "channel":""
    },
    "TargetDetection":{
/*optional, detected target information*/
      "TargetList":[{
/*required, target information list*/
        "ruleID":"",
/*optional, integer, detection rule ID*/
        "RegionList":[{
/*optional, target position*/
        "Point":[{
          "x":"",
          "y":""
        }]
        }]
      }],
      "PcitureList":[{
/*optional, picture list*/
      "dataType":{ },
      "data":""
      }]
    },
    "Situation":{
/*optional*/
      "personCount":
/*int, number of people, this field is valid when subType is "crowdSituationAnalysis" and "framesPeopleCounting"*/
    }
  }
}
```

Remarks

For different detection types, the metadata details are different, see the table below.

Detection Type	Metadata Details
Heat Map (Crowd Trend Analysis)	*JSON_Metadata_HeatMap*
People Counting (includes Regional People Counting)	*JSON_Metadata_PeopleCounting*
Personal Tracking	*JSON_Metadata_PersonalTracking*

B.2 JSON_Metadata_HeatMap

JSON message about heat map (or crowd trend analysis) metadata

```
{
 "Metadata":{
  "type":"ruleTarget",
  "subType":"heatmap",
  "time":"2017-01-01T00:00:00+08:00",
  "DevInfo":{
   "ipAddress":192.168.0.64,
   "portNo":"554",
   "macAddress":"28:57:be:ee:d1:5a",
   "channel":"1"
  },
  "TargetDetection":{
   "TargetList":[{
    "ruleID":"1",
    "RegionList":[{
     "Point":[{
       "x":"0",
       "y":"0"
      },
      {
       "x":"600",
       "y":"0"
      },
      {
       "x":"600",
       "y":"600"
      },
      {
       "x":"0",
       "y":"600"
      }]
     }]
    }],
   "PcitureList":[{
```

```
    "dataType":{ },
    "data":"xxxxxxxxxxx"
   }]
  },
  "Situation":{
   "personCount":0
  }
 }
}
```

dataType

Optional, string, picture data type: "url", "base64".

data

Optional, string, picture data.

personCount

Optional, int, number of people.

B.3 JSON_Metadata_PeopleCounting

JSON message about people counting metadata

Regional People Counting Metadata

```
{
 "Metadata":{
  "type":"ruleTarget",
  "subType":"framesPeopleCounting",
  "time":"2017-01-01T00:00:00+08:00",
  "DevInfo":{
   "ipAddress":192.168.0.64,
   "portNo":"554",
   "macAddress":"28:57:be:ee:d1:5a",
   "channel":"1"
  },
  "Situation":{
   "personCount":0
  }
 }
}
```

personCount

Optional, int, number of people in the region.

People Counting Metadata

```
{
 "Metadata":{
  "type":"ruleTarget",
```

```
  "subType":"PeopleCounting",
  "time":"2017-01-01T00:00:00+08:00",
  "DevInfo":{
    "ipAddress":192.168.0.64,
    "portNo":"554",
    "macAddress":"28:57:be:ee:d1:5a",
    "channel":"1"
  },
  "Situation":{
    "enterRegionPeopleNum":0,
    "leaveRegionPeopleNum":0
  }
 }
}
```

enterRegionPeopleNum

Optional, int, number of people entering the region. This field is required when **subType** is "PeopleCounting".

leaveRegionPeopleNum

Optional, int, number of people leaving the region. This field is required when **subType** is "PeopleCounting".

B.4 JSON_Metadata_PersonalTracking

JSON message about personal tracking metadata

```
{
 "MetaData":{
  "type":"ruleTarget",
  "subType":"personalTrack",
  "time":"2017-01-01T00:00:00+08:00",
  "DevInfo":{
    "ipAddress":192.168.0.64,
    "portNo":"554",
    "macAddress":"28:57:be:ee:d1:5a",
    "channel":"1"
  },
  "CameraPoint": [{
    "objId": "12498",
/*required, string, tracking target ID, which can contain up to 32 characters*/
    "traComplete": false,
/*required, boolean, whether the tracking target has disappeared: false, true*/
    "isvalid": 1,
/*required, int, whether target is valid: 1-yes, 0-no*/
    "GesturePolygon": {
/*required, target features*/
      "id": "12498",
/*optional, string, gesture ID, this node is valid only when there exist gesture features*/
      "JoinMsg": [{
```

```
      "gestureType": 0,
/*required, int, feature category: 0-left wrist, 1-left elbow, 2-left shoulder, 3-head, 4-right shoulder, 5-right elbow, 6-
right wrist*/
      "gestureScore": 0.572535,
/*required, float, feature score, value range: [0,1.000000]*/
      "gestureValid": 1,
/*required, int, whether the gesture is valid: 1-yes, 0-no*/
      "x": 3050.360351,
/*float, X-coordinate (space coordinates), which is accurate to 6 decimal places*/
      "y": 6995.723632,
/*float, Y-coordinate (space coordinates), which is accurate to 6 decimal places*/
      "z": 1082.0,
/*float, Z-coordinate (space coordinates), which is accurate to 6 decimal places*/
      "x2d": 0.671052,
/*float, normalized X-coordinate (plane coordinates), which is accurate to 6 decimal places, value range: [0,1]*/
      "y2d": 0.53125
/*float, normalized Y-coordinate (plane coordinates), which is accurate to 6 decimal places, value range: [0,1]*/
    }]
  },
  "HeadPolygon": {
/*head and shoulder frame of target, target coordinates, and target pattern information, the values are accurate to 6
decimal places*/
    "Rect": {
/*head and shoulder frame of target*/
      "x": 0.660156,
      "y": 0.388888,
      "width": 0.089843,
      "height": 0.125
    },
    "cct": {
/*target coordinates*/
      "x": 3057.293212,
/*float, X-coordinate (space coordinates)*/
      "y": 7205.725585,
/*float, Y-coordinate (space coordinates)*/
      "z": 0.0
/*float, Z-coordinate (space coordinates)*/
    },
    "HeadModel": {
      "modelNum": 1,
/*required, int, number of feature vectors on head and shoulder, it can be set to 0 if there is no vector*/
      "Data":[{
        "poseType": 7,
/*required, int, target direction or posture (vertical angle of view): 1-in image medium, 2-four image corners forward,
3-four image corners backward, 4-four image corners leftward, 5-four image corners rightward, 6-image center
forward, 7-image center backward, 8-image center leftward, 9-image center rightward, 0-unknown*/
        "feaLen": 134,
/*required, int, length of feature vector*/
        "feaData":""
/*required, string, feature data*/
      }]
    }
```

```
    },
    "SuspList": {
/*tracking exception tag*/
    "suspNum": 1,
/*required, int, number of abnormal patterns, it can be set to 0 if all patterns are normal*/
    "Data":[{
        "suspID": 5,
/*required, int, abnormal pattern ID*/
        "timeStamp":1576657411095,
/*required, int, pattern exception occurred time*/
        "confidence":0.567
/*required, float, exception confidence*/
    }]
  }
 }]
 }
}
```

B.5 JSON_ResponseStatus

JSON message about response status

```
{
  "requestURL":"",
/*optional, string, request URL*/
  "statusCode": ,
/*required, int, status code*/
  "statusString":"",
/*required, string, status description*/
  "subStatusCode":"",
/*required, string, sub status code*/
  "errorCode": ,
/*optional, int, error code, which corresponds to subStatusCode, this field is required when statusCode is not 1. The
returned value is the transformed decimal number*/
  "errorMsg":"",
/*optional, string, error details, this field is required when statusCode is not 1*/
}
```

⓵ **Note**

See *Response Codes of Text Protocol* for details about the status codes, sub status codes, error codes, and error descriptions.

B.6 JSON_RTSPMetadataURI

JSON message about metadata details URI (over RTSP)

```
{
  "rtspURI":""
```

```
/*required, string, metadata details URI over RTSP, it can contain up to 128 characters*/
}
```

B.7 JSON_SubscribeType

JSON message about metadata types to be subscribed

```
{
    "type":[""]
/*optional, array of string, type list of metadata to be subscribed: "thermometry"-real-time temperature
measurement, "fireDetection"-fire source detection, "shipsDetection"-ship detection, "behaviorAnalysis"-behavior
analysis, "ANPR", "personQueue"-queue management, "faceSnap"-face capture, "radarDetection"-radar detection,
"personalTrack"-personal tracking; it can contain multiple types, and each type string can contain up to 64 characters*/
}
```

B.8 XML_Cap_MetadataCfg

XML message about metadata configuration capability

```
<MetadataCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
  <MetadataList size=""><!--required-->
    <Metadata><!--required-->
      <type opt="thermometry, fireDetection, shipsDetection, behaviorAnalysis, ANPR, personQueue, faceSnap,
radarDetection, personalTrack">
        <!--required, xs: string, metadata type: "thermometry"-real-time temperature measurement, "fireDetection"-fire
source detection, "shipsDetection"-ship detection, "behaviorAnalysis"-behavior analysis, "ANPR", "personQueue"-
queue management, "faceSnap"-face capture, "radarDetection"-radar detection, "personalTrack"-personal tracking-->
      </type>
      <enable><!--required, xs:boolean: true-upload, false-not upload--></enable>
    </Metadata>
  </MetadataList>
  <uploadDataFormat opt="xml,json">
    <!--optional,xs:string, If this node does not exist, it indicates that only XML format message is supported-->
  </uploadDataFormat>
  <isSupportSubscribeType><!--required, xs: boolean, whether the device supports subscribing metadata by type (by
default, it is subscribed by channel)--></isSupportSubscribeType>
</MetadataCfg>
```

B.9 XML_DeviceCap

XML message about device capability

```
<DeviceCap version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
  <SysCap><!--optional-->
    <isSupportDst><!--optional, xs: boolean, whether it supports daylight saving time--></isSupportDst>
    <NetworkCap/><!--optional, xs: boolean, network capability-->
    <IOCap/><!--optional, IO capability-->
```

```
<SerialCap/><!--optional, serial port capability-->
<VideoCap/><!--optional, video capability, see details in the message of XML_VideoCap-->
<AudioCap/><!--optional, audio capability-->
<isSupportHolidy><!--optional, xs:boolean--></isSupportHolidy>
<RebootConfigurationCap>
  <Genetec><!--optional, xs:boolean--></Genetec>
  <ONVIF><!--optional, xs:boolean--></ONVIF>
  <RTSP><!--optional, xs:boolean--></RTSP>
  <HTTP><!--optional, xs:boolean--></HTTP>
  <SADP>
    <ISDiscoveryMode><!--optional, xs:boolean--></ISDiscoveryMode>
    <PcapMode><!--optional, xs:boolean--></PcapMode>
  </SADP>
  <IPCAddStatus><!--optional, xs:boolean--></IPCAddStatus>
</RebootConfigurationCap>
<isSupportExternalDevice><!--optional, xs:boolean--></isSupportExternalDevice>
<isSupportChangedUpload>
  <!--optional, xs: boolean, whether it supports uploading status changes-->
</isSupportChangedUpload>
<isSupportGettingWorkingStatus>
  <!--optional, xs:boolean, whether it supports getting device status-->
</isSupportGettingWorkingStatus>
<isSupportGettingChannelInfoByCondition>
  <!--optional, xs:boolean-->
</isSupportGettingChannelInfoByCondition>
<isSupportDiagnosedDataParameter>
  <!--optional, xs:boolean-->
</isSupportDiagnosedDataParameter>
<isSupportSimpleDevStatus>
  <!--optional, xs: boolean, whether it supports getting device working status-->
</isSupportSimpleDevStatus>
<isSupportFlexible>
  <!--optional, xs: boolean, whether it supports getting channel status by condition-->
</isSupportFlexible>
<isSupportPTZChannels>
  <!--optional, xs:boolean, whether it supports returning PTZ channel (which is different from the video channel)-->
</isSupportPTZChannels>
<isSupportSubscribeEvent>
  <!--optional, xs:boolean, whether it supports alarm or event subscription: "true,false"-->
</isSupportSubscribeEvent>
<isSupportDiagnosedData>
  <!--optional, xs:boolean, "true,false", whether it supports diagnosis data-->
</isSupportDiagnosedData>
<isSupportTimeCap>
  <!--optional, xs:boolean, whether it supports time capability-->
</isSupportTimeCap>
<isSupportThermalStreamData>
  <!--optional, xs:boolean, whether it supports uploading thermal stream data in real-time. If it is supported, the
returned value is "true"; otherwise, this node will not be returned-->
</isSupportThermalStreamData>
<isSupportPostUpdateFirmware>
  <!--optional,xs:boolean,"true,false", whether it supports upgrading the firmware-->
```

```
    </isSupportPostUpdateFirmware>
    <isSupportPostConfigData>
      <!--optional, xs:boolean,"true,false", whether it supports importing or exporting the configuration file-->
    </isSupportPostConfigData>
    <isSupportUserLock>
      <!--optional, xs:boolean,"true,false", whether it supports locking user-->
    </isSupportUserLock>
    <isSupportModuleLock><!--optional, xs:boolean, whether it supports locking the module: "true,false"--></
isSupportModuleLock>
    <isSupportSoundCfg><!--optional, xs:boolean--></isSupportSoundCfg>
    <isSupportMetadata>
      <!--optional, xs:boolean, if it is supported, return "true", otherwise, this node will not be returned-->
    </isSupportMetadata>
    <isSupportShutdown><!--optional, xs:boolean, whether it supports shutdown configuration--></
isSupportShutdown>
    <supportSmartOverlapChannles opt="1"/><!--optional, xs:boolean, whether it supports stream configuration of
smart events. If this function is supported, this node and the corresponding channel ID will be returned; otherwise,
this node will not be returned-->
    <isSupportConsumptionMode><!--optional, xs:boolean, whether it supports switching power consumption
mode:true (yes), this node is not returned (no). Related URI: /ISAPI/System/consumptionMode/capabilities?
format=json--></isSupportConsumptionMode>
    <isSupportManualPowerConsumption><!--optional, xs:boolean, whether it supports control the power
consumption mode manually: true (yes), this node is not returned (no)--></isSupportManualPowerConsumption>
  </SysCap>
  <voicetalkNums><!--optional, xs:integer, the number of two-way audio channels--></voicetalkNums>
  <isSupportSnapshot><!--optional, xs:boolean, whether it supports capture: "true, false"--></isSupportSnapshot>
  <SecurityCap/><!--optional, security capability-->
  <EventCap/><!--optional, event capability-->
  <ITCCap><!--optional--></ITCCap>
  <ImageCap/><!--optional, image capability-->
  <RacmCap/><!--optional, storage capability-->
  <PTZCtrlCap>
    <isSupportPatrols><!--optional, xs:boolean--></isSupportPatrols>
  </PTZCtrlCap>
  <SmartCap/><!--optional, intelligent capability-->
  <isSupportEhome><!--optional, xs:boolean--></isSupportEhome>
  <isSupportStreamingEncrypt><!--optional, xs:boolean--></isSupportStreamingEncrypt>
  <TestCap>
    <isSupportEmailTest><!--optional, xs:boolean--></isSupportEmailTest>
  </TestCap>
  <ThermalCap/><!--optional, temperature measurement capability-->
  <WLAlarmCap/><!--optional, wireless alarm capability-->
  <SecurityCPCapabilities/><!--optional, security control panel capability-->
  <isSupportGIS>
    <!--optional, xs:boolean, whether it supports GIS capability-->
  </isSupportGIS>
  <isSupportCompass>
    <!--optional, xs:boolean-->
  </isSupportCompass>
  <isSupportRoadInfoOverlays>
    <!--optional, xs:boolean-->
  </isSupportRoadInfoOverlays>
```

```
<isSupportFaceCaptureStatistics>
 <!--optional, xs:boolean-->
</isSupportFaceCaptureStatistics>
<isSupportExternalDevice>
 <!--optional, xs:boolean-->
</isSupportExternalDevice>
<isSupportElectronicsEnlarge>
 <!--optional, xs:boolean, whether it supports digital zoom-->
</isSupportElectronicsEnlarge>
<isSupportRemoveStorage>
 <!--optional, xs:boolean-->
</isSupportRemoveStorage>
<isSupportCloud>
 <!--optional, xs:boolean-->
</isSupportCloud>
<isSupportRecordHost>
 <!--optional, xs:boolean-->
</isSupportRecordHost>
<isSupportEagleEye>
 <!--optional, xs:boolean, whether it supports PanoVu series camera-->
</isSupportEagleEye>
<isSupportPanorama>
 <!--optional, xs:boolean, whether it supports panorama-->
</isSupportPanorama>
<isSupportFirmwareVersionInfo>
 <!--optional, xs:boolean, whether it supports displaying firmware version information-->
</isSupportFirmwareVersionInfo>
<isSupportExternalWirelessServer>
 <!--optional, xs: boolean-->
</isSupportExternalWirelessServer>
<isSupportSetupCalibration>
 <!--optional, xs:boolean, whether it supports setting calibration-->
</isSupportSetupCalibration>
<isSupportGetmutexFuncErrMsg>
 <!--optional, xs:boolean, whether it supports getting mutex information-->
</isSupportGetmutexFuncErrMsg>
<isSupportTokenAuthenticate><!--optional, xs:boolean--></isSupportTokenAuthenticate>
<isSupportStreamDualVCA><!--optional, xs:boolean--></isSupportStreamDualVCA>
<isSupportlaserSpotManual>
 <!--optional, boolean, whether it supports laser spot configuration-->
</isSupportlaserSpotManual>
<isSupportRTMP><!--optional, xs:boolean--></isSupportRTMP>
<isSupportTraffic><!--optional, xs:boolean--></isSupportTraffic>
<isSupportLaserSpotAdjustment>
 <!--optional, boolean, whether it supports adjusting laser spot size-->
</isSupportLaserSpotAdjustment>
<VideoIntercomCap/><!--optional, video intercom capability-->
<isSupportSafetyCabin>
 <!--optional, xs:boolean-->
</isSupportSafetyCabin>
<isSupportPEA>
 <!--optional, xs:boolean, whether it supports one-touch security control panel capability-->
```

```
</isSupportPEA>
<isSupportCurrentLock>
  <!--optional, xs:boolean, whether it supports locking current configuration-->
</isSupportCurrentLock>
<isSupportGuardAgainstTheft>
  <!--optional, xs:boolean, whether it supports device anti-theft configuration-->
</isSupportGuardAgainstTheft>
<isSupportPicInfoOverlap>
  <!--optional, xs:boolean, whether it supports picture information overlay-->
</isSupportPicInfoOverlap>
<isSupportPlay>
  <!--optional, xs: boolean, whether it supports live view: "true,false"-->
</isSupportPlay>
<isSupportPlayback>
  <!--optional, xs: boolean, whether it supports playback: "true,false"-->
</isSupportPlayback>
<UHFRFIDReader>
  <!--optional, supported capability of UHF RFID card reader-->
  <isSupportBasicInformation>
    <!--optional, xs:boolean, whether it supports basic parameters of UHF RFID card reader-->
  </isSupportBasicInformation>
  <isSupportHardDiskStorageTest>
    <!--optional, xs:boolean, whether it supports hard disk storage test of UHF RFID card reader-->
  </isSupportHardDiskStorageTest>
</UHFRFIDReader>
<isSupportIntelligentStructureAnalysis>
  <!--optional, xs:boolean, whether it supports structured VCA-->
</isSupportIntelligentStructureAnalysis>
<isSupportIntelligentAnalysisEngines>
  <!--optional, xs:boolean, whether it supports VCA engine configuration-->
</isSupportIntelligentAnalysisEngines>
<PreviewDisplayNum>
  <!--optional, xs:integer, the number of live view windows, which is the number of simultaneous live view windows
controlled by the device. Limited by the performance of DeepinMind series network video recorder, currently only live
view of a network camera is supported, and playback is not supported-->
</PreviewDisplayNum>
<isSupportBoard opt="true,false">
  <!--optional, xs:boolean, whether it supports protocol related to sub-board-->
</isSupportBoard>
<ResourceSwitch>
  <workMode opt="4KPreview,educationRecord">
    <!--req, xs:string, device working mode："4KPreview"-4K live view mode, "educationRecord"-education recording
mode-->
  </workMode>
</ResourceSwitch>
<isSupportCustomStream><!--optional, xs:boolean--></isSupportCustomStream>
<isSupportTriggerCapCheck>
  <!--optional, xs:boolean, whether it supports verifying capability of alarm linkage actions-->
</isSupportTriggerCapCheck>
<isSupportActiveMulticast>
  <!--optional, xs: boolean, whether it supports active multicast-->
</isSupportActiveMulticast>
```

```
<isSupportChannelEventCap>
  <!--optional, xs:boolean, whether it supports getting event capability by channel-->
</isSupportChannelEventCap>
<isSupportPictureServer>
  <!-- opt, xs:boolean, whether it supports picture storage server-->
</isSupportPictureServer>
<isSupportVideoCompositeAlarm>
  <!--optional, xs:boolean, whether it supports video double check alarm-->
</isSupportVideoCompositeAlarm>
<isSupportSensorCalibrating>
  <!--optional, xs:boolean, whether it supports double sensor calibration-->
</isSupportSensorCalibrating>
<isSupportChannelEventListCap>
  <!--optional, xs:boolean, whether it supports getting event capability of all channels-->
</isSupportChannelEventListCap>
<VCAResourceChannelsCap>
  <!--optional, whether it supports independently switching to another VCA resource by channel-->
  <ChannelsList>
    <channelsID>
      <!--req, xs:integer, channel No. supported by the device-->
    </channelsID>
  </ChannelsList>
</VCAResourceChannelsCap>
<SensorCap/><!--optional, intelligent cabinet capability-->
<isSupportSecurityCP/>
  <!--optional, xs:boolean, whether it supports the applications of security control panel: "true, false"-->
</isSupportSecurityCP>
<isSupportClientProxyWEB>
  <!--optional, xs:boolean, whether it supports the function that the client proxy passes through the remote web
configuration: "true"-->
</isSupportClientProxyWEB>
<WEBLocation>
  <!--optional, string type, web page location: "local"-local device, "remote"-remote location. If this node is not
returned, the web page will be in the local device by default-->
</WEBLocation>
<isSupportTime/>
  <!--optional, xs:boolean, "true, false", whether it supports time configuration-->
</isSupportTime>
<isSupportTimeZone/>
  <!--optional, xs:boolean, "true, false", whether it supports daylight saving time (DST) configuration-->
</isSupportTimeZone>
<isSupportMixedTargetDetection>
  <!--optional, xs:boolean, "true, false", whether it supports multi-target-type detection-->
</isSupportMixedTargetDetection>
<isSupportFaceContrastMode>
  <!--optional, xs:boolean, whether it supports face picture comparison mode-->
</isSupportFaceContrastMode>
<isSupportPictureCaptureComparision>
  <!--optional, xs:boolean, whether it supports face picture N:1 comparison between face pictures captured by the
camera and imported face pictures-->
</isSupportPictureCaptureComparision>
<isSupportGPSCalibratation>
```

```
    <!--optional, xs:boolean, whether it supports GPS calibration capability-->
  </isSupportGPSCalibratation>
  <isSupportChannelFullEventListCap>
    <!--optional, xs:boolean, whether it supports getting event list capability of all channels-->
  </isSupportChannelFullEventListCap>
  <isSupportAUXInfoCap>
    <!--optional, xs:boolean, whether it supports getting property capability of all channels-->
  </isSupportAUXInfoCap>
  <isSupportCalibrationFile>
    <!--optional, xs:boolean, whether it supports importing calibration file-->
  </isSupportCalibrationFile>
  <isSupportDisplayTrajectory>
    <!--optional, xs:boolean, whether it supports displaying trajectory-->
  </isSupportDisplayTrajectory>
  <maximumSuperPositionTime opt="5,10,20,30">
    <!--dep,xs:integer, the maximum time of trajectory displaying,   unit: second, it is valid only when displaying
trajectory is supported-->
  </maximumSuperPositionTime>
  <isSupportUnitConfig>
    <!--optional, xs:boolean, whether it supports unit configuration-->
  </isSupportUnitConfig>
  <isSupportAutoMaintenance>
    <!--optional, xs:boolean, whether it supports automatic maintenance. When this node exists and values "true", it
indicates support-->
  </isSupportAutoMaintenance>
  <isSupportGetLinkSocketIP>
    <!--optional, xs: boolean, "true,false", whether it supports getting the SocketIP of current connection-->
  </isSupportGetLinkSocketIP>
  <isSupportIntelligentSearch>
    <!--optional, xs:boolean, whether it supports intelligent search-->
  </isSupportIntelligentSearch>
  <IOTCap><!--optional, xs:boolean, IoT device access capability-->
    <supportChannelNum>
      <!--req, xs:integer, number of supported channels of IoT device-->
    </supportChannelNum>
    <startChannelNo>
      <!--optional, xs:integer, initial channel ID, if this node is not inputted, it indicates that the initial channel ID is 1-->
    </startChannelNo>
    <isSupportlinkageChannelsSearch>
      <!--optional, boolean, returns "true" if support, returns "false" if not support-->
    </isSupportlinkageChannelsSearch>
  </IOTCap>
  <isSupportEncryption>
    <!--optional, xs: boolean, stream encryption capability-->
  </isSupportEncryption>
  <AIDEventSupport opt="abandonedObject, pedestrian, congestion, roadBlock, construction, trafficAccident,
fogDetection, wrongDirection, illegalParking, SSharpDriving, lowSpeed, dragRacing">
    <!--optional, xs:string, supported traffic incident type: "abandonedObject"-objects dropped down, "pedestrian"-
pedestrian, "congestion"-congestion, "roadBlock"-roadblock, "construction"-construction, "trafficAccident"-traffic
accident, "fogDetection"-fog, "wrongDirection"-wrong-way driving, "illegalParking"-illegal parking, "SSharpDriving"-
slalom driving, "lowSpeed"-driving in low speed, "dragRacing"-street racing-->
  </AIDEventSupport>
```

```
  <TFSEventSupport
opt="illegalParking ,wrongDirection,crossLane,laneChange,vehicleExist,turnRound,parallelParking,notKeepDistance,not
SlowZebraCrossing,overtakeRightSide,lowSpeed,dragRacing,changeLaneContinuously,SSharpDriving,largeVehicleOccup
yLine,jamCrossLine">
    <!--optional, xs:string, supported enforcement event type: "illegalParking"-illegal parking, "wrongDirection"-wrong-
way driving, "crossLane"-driving on the lane line, "laneChange"-illegal lane change, "vehicleExist"-motor vehicle on
non-motor vehicle lane, "turnRound"-illegal U-turn, "parallelParking"-parallel parking, "notKeepDistance"-not keeping
vehicle distance, "notSlowZebraCrossing"-not slowing down at zebra corssing, "overtakeRightSide"-overtaking on the
right, "lowSpeed"-driving in low speed, "dragRacing"-street racing, "changeLaneContinuously"-continuous lane
change, "SSharpDriving"-slalom driving, "largeVehicleOccupyLine"-lane occupation by large-sized vehicle,
"jamCrossLine"-queue jumping-->
  </TFSEventSupport>
  <isVehicleStatisticsSupport>
    <!--optional, xs: boolean, whether it supports setting parameters for traffic data collection-->
  </isVehicleStatisticsSupport>
  <isSupportIntersectionAnalysis>
    <!--optional, xs: boolean, whether it supports intersection analysis-->
  </isSupportIntersectionAnalysis>
  <supportRemoteCtrl opt="up,down,left,right,enter,menu,num,power,esc,edit,F1,.prev,rec,play,stop,notSupport"/><!--
whether it supports remote control-->
  <isSptDiagnosis>
    <!--optional, xs:boolean, whether it supports device diagnosis: "true", "false"-->
  </isSptDiagnosis>
  <isSptSerialLogCfg>
    <!--optional, xs:boolean, whether it supports configuring serial port log redirection: "true", "false"-->
  </isSptSerialLogCfg>
  <isSptFileExport>
    <!--optional, xs:boolean, whether it supports exporting files from the device: "true", "false"-->
  </isSptFileExport>
  <isSptCertificationStandard>
    <!--optional, xs:boolean, whether it supports configuring authentication standard for security control panel: "true",
"false"-->
  </isSptCertificationStandard>
  <isSptKeypadLock>
    <!--optional, xs:boolean, whether it supports locking keypad: "true", "false"-->
  </isSptKeypadLock>
  <MixedTargetDetection><!--optional, whether the device supports recognizing specific target among mixed targets-->
    <isSupportFaceRecognition><!--optional, xs:boolean, whether it supports face recognition--></
isSupportFaceRecognition>
    <isSupportHumanRecognition><!--optional, xs:boolean, whether it supports human body recognition--></
isSupportHumanRecognition>
    <isSupportVehicleRecognition><!--optional, xs:boolean, whether it supports vehicle recognition--></
isSupportVehicleRecognition>
  </MixedTargetDetection>
  <isSupportDiscoveryMode><!--optional, xs:boolean--></isSupportDiscoveryMode>
  <streamEncryptionType>
    <!--dep, xs:string, stream encryption type: "RTP/TLS", "SRTP/UDP", "SRTP/MULTICAST". This node is valid when
<isSupportEncryption> is "true", and the device can support one or more stream encryption types-->
  </streamEncryptionType>
  <isSupportLms><!--optional, xs:boolean, whether it supports laser--></isSupportLms>
  <isSupportLCDScreen><!--optional, xs:boolean, whether it supports LCD screen--></isSupportLCDScreen>
  <isSupportBluetooth><!--optional, xs:boolean, whether it supports bluetooth--></isSupportBluetooth>
```

```
 <isSupportAcsUpdate>
  <!--optional, whether it supports upgrading slave access control devices or peripheral modules: "true"-yes, this
node is not returned-no-->
 </isSupportAcsUpdate>
 <isSupportAccessControlCap>
  <!--optional, whether it supports access control capability: "true"-yes, this node is not returned-no-->
 </isSupportAccessControlCap>
 <isSupportIDCardInfoEvent><!--optional, whether it supports ID card swiping event: "true"-yes. This node will not be
returned if this function is not supported--></isSupportIDCardInfoEvent>
 <OpenPlatformCap><!--optional, embedded open platform capability, refer to the message XML_OpenPlatformCap
for details-->
 <isSupportInstallationAngleCalibration>
  <!--optional, xs:boolean, whether it supports installation angle calibration-->
 </isSupportInstallationAngleCalibration>
 <isSupportZeroBiasCalibration>
  <!--optional, xs:boolean, whether it supports zero bias calibration-->
 </isSupportZeroBiasCalibration>
 <isSupportDevStatus><!--optional, xs:boolean, whether device supports getting device status--></
isSupportDevStatus>
 <isSupportRadar><!--optional, xs:boolean, whether it supports the security radar--></isSupportRadar>
 <isSupportRadarChannels><!--optional, xs:boolean, whether it supports getting radar channels--></
isSupportRadarChannels>
 <radarIPDForm><!--optional, xs:string, radar form: "single"-single radar, "double_diagonal"-two radars forming an
180° diagonal, "double_vertical"-two radars forming a 90° vertical angle--></radarIPDForm>
 <isSupportRadarFieldDetection><!--optional, xs:boolean, whether it supports intrusion detection (radar)--></
isSupportRadarFieldDetection>
 <isSupportRadarLineDetection><!--optional, xs:boolean, whether it supports line crossing detection (radar)--></
isSupportRadarLineDetection>
 <mixedTargetDetectionWebNoDisplay><!--optional, xs:boolean, whether to enable not displaying multi-target-type
recognition--></mixedTargetDetectionWebNoDisplay>
 <SHMCap><!--opt-->
  <isSupportHighHDTemperature><!--optional, xs:boolean, whether it supports HDD high temperature detection--></
isSupportHighHDTemperature>
  <isSupportLowHDTemperature><!--optional, xs:boolean, whether it supports HDD low temperature detection--></
isSupportLowHDTemperature>
  <isSupportHDImpact><!--optional, xs:boolean, whether it supports HDD impact detection--></isSupportHDImpact>
  <isSupportHDBadBlock><!--optional, xs:boolean, whether it supports HDD bad sector detection--></
isSupportHDBadBlock>
  <isSupportSevereHDFailure><!--optional, xs:boolean, whether it supports HDD severe fault detection--></
isSupportSevereHDFailure>
 </SHMCap>
 <isSupportBVCorrect><!--optional, xs:boolean, whether it supports configuring camera correction parameters--></
isSupportBVCorrect>
 <guideEventSupport opt="linkageCapture">
  <!--optional,xs:string, events which support quick setup by instruction, "linkageCapture"-capture by linkage-->
 </guideEventSupport>
 <isSupportAutoSwitch><!--optional, xs:boolean, whether it supports auto switch--> true</isSupportAutoSwitch>
 <isSupportDataPrealarm><!--optional,xs:boolean, whether it supports traffic pre-alarm event--></
isSupportDataPrealarm>
 <supportGISEvent opt="AID,TPS,ANPR,mixedTargetDetection">
  <!--optional, xs:string, event types that support GIS information access: AID (corresponding SDK event:
COMM_ALARM_AID_V41), TPS (corresponding SDK event: COMM_ALARM_TPS_REAL_TIME), ANPR (corresponding
```

SDK event: COMM_ITS_PLATE_RESULT), mixedTargetDetection-mixed targets detection-->
  </supportGISEvent>
  <isSupportIntelligentMode><!--optional, xs:boolean, whether it supports intelligent scene switch (related URI:/ISAPI/System/IntelligentSceneSwitch?format=json)--></isSupportIntelligentMode>
  <isSupportCertificateCaptureEvent><!--optional, xs:boolean, whether it supports certificate capture and comparison events: true-yes. If this function is not supported, this node will not be returned--></isSupportCertificateCaptureEvent>
  <isSupportAlgorithmsInfo><!--optional, xs:boolean, whether it supports getting the algorithm library version information: true-yes. If this function is not supported, this node will not be returned--></isSupportAlgorithmsInfo>
  <isSupportVibrationDetection><!--optional, xs:boolean, whether it supports vibration detection--></isSupportVibrationDetection>
  <isSupportFaceTemperatureMeasurementEvent><!--optional, xs:boolean, whether it supports uploading face thermography events (**eventType**: "FaceTemperatureMeasurementEvent")--></isSupportFaceTemperatureMeasurementEvent>
  <isSupportQRCodeEvent><!--optional, xs:boolean, whether it supports uploading QR code events (**eventType**: "QRCodeEvent")--></isSupportQRCodeEvent>
  <isSupportPersonArmingTrack><!--optional, xs:boolean, whether device supports person arming (related URI: /ISAPI/Intelligent/channels/<ID>/personArmingTrack/capabilities?format=json)--></isSupportPersonArmingTrack>
  <isSupportManualPersonArmingTrack><!--optional, xs:boolean, whether device supports manual person arming (related URI: /ISAPI/Intelligent/channels/<ID>/manualPersonArmingTrack?format=json)--></isSupportManualPersonArmingTrack>
  <isSupportGPSCalibrationMode><!--optional, xs:boolean, whether device supports GPS calibration (related URI: /ISAPI/System/GPSCalibration/channels/<ID>/mode?format=json)--></isSupportGPSCalibrationMode>
  <isSupportGPSVerification><!--optional, xs:boolean, whether device supports GPS verification (related URI: /ISAPI/System/GPSVerification/channels/<ID>/points?format=json)--></isSupportGPSVerification>
  <isSupportHBDLib><!--optional, xs:boolean, whether device supports human body picture library (related URI: /ISAPI/Intelligent/HBDLib/capabilities?format=json)--></isSupportHBDLib>
  <isSupportFireEscapeDetection><!--optional, xs:boolean, whether the device supports fire engine access detection (related URI: /ISAPI/Intelligent/channels/<ID>/fireEscapeDetection/capabilities?format=json)--></isSupportFireEscapeDetection>
  <isSupportTakingElevatorDetection><!--optional, xs:boolean, whether the device supports elevator detection (related URI: /ISAPI/Intelligent/channels/<ID>/takingElevatorDetection/capabilities?format=json)--></isSupportTakingElevatorDetection>
  <isSupportSSDFileSystemUpgrade><!--optional, xs:boolean, whether the device supports SSD file system upgrade (related URI: /ISAPI/System/SSDFileSystem/upgrade?format=json)--></isSupportSSDFileSystemUpgrade>
  <isSupportSSDFileSystemFormat><!--optional, xs:boolean, whether the device supports SSD file system formatting (related URI: /ISAPI/System/SSDFileSystem/format?format=json)--></isSupportSSDFileSystemFormat>
  <isSupportSSDFileSystemCapacity><!--optional, xs:boolean, whether the device supports getting space distribution information of SSD file system (related URI: /ISAPI/System/SSDFileSystem/capacity?format=json)--></isSupportSSDFileSystemCapacity>
  <isSupportAIOpenPlatform><!--optional, xs:boolean, whether the device supports AI open platform capabilities; if supports, this node will be returned and its value is true; if not, this node will not be returned--></isSupportAIOpenPlatform>
  <isSupportPictureDownloadError><!--optional, xs:boolean, whether the device supports reporting picture download failure--></isSupportPictureDownloadError>
  <characteristicCode min="1" max="128"><!--optional, xs:string, device attribute code (related URI: /ISAPI/System/deviceInfo/characteristicCode?format=json)--></characteristicCode>
</DeviceCap>

B.10 XML_Metadata_ANPR

XML message about ANPR metadata

Real-Time Target Metadata

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>ANPR</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <targetID>1</targetID>
  <recognition>vehicle</recognition>
  <ruleID>1</ruleID>
  <RegionList>//vehicle position
   <Region>
    <Point>
     <x>0</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
     <y>0</y>
      </Point>
    <Point>
     <x>600</x>
     <y>600</y>
    </Point>
    <Point>
     <x>0</x>
     <y>600</y>
    </Point>
   </Region>
  </RegionList>
  <PropertyList>
   <Property>
    <description>direction</description>
    <value>reverse</value>
   </Property>
   <Property>
    <description>licensePlate</description>
    <value>XA12345</value>
   </Property>
```

```
    <Property>
     <description>plateType</description>
     <value>arm</value>
    </Property>
    <Property>
     <description>plateColor</description>
     <value>yellow</value>
    </Property>
    <Property>
     <description>vehicleColor</description>
     <value>yellow</value>
    </Property>
    <Property>
     <description>vehicleType</description>
     <value>largeBus</value>
    </Property>
    <Property>
     <description>vehicleLogo</description>
     <value>1026</value>
    </Property>
    <Property>
     <description>vehicleSublogo</description>
     <value>5</value>
    </Property>
    <Property>
     <description>confidence</description>
     <value>100</value>
    </Property>
    <Property>
     <description>country</description>
     <value>16</value>
    </Property>
    <Property>
     <description>directionIndex</description>
     <value>forward</value>
    </Property>
    <Property>
     <description>vehicleConfidence</description>
     <value>100</value>
    </Property>
   </PropertyList>
   </Target>
  </TargetList>
 </TargetDetection>
</Metadata>
```

direction

Optional, license plate direction, including reverse (backward), forward, and unknown.

licensePlate

Optional, string, license plate number. When subType is ANPR, this field is required.

plateType

Optional, string, license plate types.

plateColor

Optional, license plate color, including white, yellow, blue, black, green, and 0xff (other), string type.

vehicleColor

Optional, string, vehicle color, including unknown, white, silver, gray, black, red, deepBlue (dark blue), blue, yellow, green, brown, pink, purple, deepGray (dark gray), cyan, and orange.

vehicleType

Optional, string, vehicle types.

vehicleLogo

Optional, string, vehicle brand.

vehicleSublogo

Optional, string, vehicle sub brand.

confidence

Optional, string, license plate confidence, it is between 0 and 100.

country

Optional, xs:integer, country or region index.

directionIndex

Optional, string, driving direction: "unknown", "eastWest"-from east to west, "westEast"-from west to east, "southNorth"-from south to north, "noerthSouth"-from north to south, "southeastToNorthwest"-from southeast to northwest, "northwestToSoutheast"-from northwest to southeast, "northeastToSouthwest"-from northeast to southwest, "southwestToNortheast"-from southwest to northeast, "forward"-forward, "back"-backward

vehicleConfidence

Optional, string, vehicle confidence, it is between 0 and 100.

B.11 XML_Metadata_BehaviorAnalysis

XML message about behavior analysis metadata

Rule Metadata

When Behavior Analysis Alarm is Not Triggered

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
 <subType>behaviorAnalysis</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
```

```xml
    <ipAddress>192.168.0.64</ipAddress>
    <portNo>554</portNo>
    <macAddress>28:57:be:ee:d1:5a</macAddress>
    <channel>1</channel>
  </DevInfo>
  <TargetDetection>
   <TargetList>
    <Target>
     <ruleID>1</ruleID>
     <RegionList>
      <Region>
       <Point>
         <x>100</x>
         <y>100</y>
       </Point>
       <Point>
         <x>600</x>
         <y>600</y>
       </Point>
      </Region>
     </RegionList>
     <PropertyList>
      <Property>
       <description>eventType</description>
       <value>linedetection</value>
      </Property>
      <Property>
       <description>crossdirection</description>
       <value>lefttoright</value>
      </Property>
     </PropertyList>
    </Target>
   </TargetList>
  </TargetDetection>
</Metadata>
```

When Behavior Analysis Alarm is Triggered

```xml
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
 <subType>behaviorAnalysis</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <ruleID>1</ruleID>
    <RegionList>
```

```
    <Region>
     <Point>
      <x>100</x>
      <y>100</y>
     </Point>
     <Point>
      <x>600</x>
      <y>600</y>
     </Point>
    </Region>
   </RegionList>
   <PropertyList>
    <Property>
     <description>eventType</description>
     <value>linedetection</value>
    </Property>
    <Property>
     <description>triggerEvent</description>
     <value>true</value>
    </Property>
    <Property>
     <description>crossdirection</description>
     <value>lefttoright</value>
    </Property>
   </PropertyList>
  </Target>
 </TargetList>
 </TargetDetection>
</Metadata>
```

eventType

Required, behavior analysis alarm category, including linedetection (line crossing detection), fielddetection (intrusion detection), regionEntrance (region entrance detection), regionExiting (region exiting detection), parking (parking detection), loitering (loitering detection), group (people gathering detection), rapidMove (fast moving detection), unattendedBaggage (unattended baggage detection), attendedBaggage (object removal detection).

triggerEvent

Optional, the alarm is triggered or not, true-triggered, if not triggered, this field is invalid.

crossdirection

Optional, line crossing detection, including lefttoright (left to right), righttoleft (right to left), bothdirection (bidirection). When the eventType is linedetection, this field is required.

Real-Time Target Metadata

When Behavior Analysis Alarm is Not Triggered

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>behaviorAnalysis</subType>
 <time>2017-01-01T00:00:00+08:00</time>
```

```
    <DevInfo>
      <ipAddress>192.168.0.64</ipAddress>
      <portNo>554</portNo>
      <macAddress>28:57:be:ee:d1:5a</macAddress>
      <channel>1</channel>
    </DevInfo>
    <TargetDetection>
      <TargetList>
        <Target>
          <targetID>1</targetID>
          <recognition>human</recognition>
          <RegionList>
            <Region>
              <Point>
                <x>0</x>
                <y>0</y>
              </Point>
              <Point>
                <x>50</x>
                <y>0</y>
              </Point>
              <Point>
                <x>50</x>
                <y>50</y>
              </Point>
              <Point>
                <x>0</x>
                <y>50</y>
              </Point>
            </Region>
          </RegionList>
          <PropertyList>
            <Property>
              <description>triggerEvent</description>
              <value>false</value>
            </Property>
          </PropertyList>
        </Target>
      </TargetList>
    </TargetDetection>
</Metadata>
```

When Behavior Analysis Alarm is Triggered

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
  <type>activityTarget</type>
  <subType>behaviorAnalysis</subType>
  <time>2017-01-01T00:00:00+08:00</time>
  <DevInfo>
    <ipAddress>192.168.0.64</ipAddress>
    <portNo>554</portNo>
    <macAddress>28:57:be:ee:d1:5a</macAddress>
    <channel>1</channel>
```

```
    </DevInfo>
    <TargetDetection>
     <TargetList>
      <Target>
       <targetID>1</targetID>
       <recognition>human</recognition>
       <RegionList>
        <Region>
         <Point>
          <x>100</x>
          <y>100</y>
         </Point>
         <Point>
          <x>150</x>
          <y>100</y>
         </Point>
         <Point>
          <x>150</x>
          <y>150</y>
         </Point>
         <Point>
          <x>100</x>
          <y>150</y>
         </Point>
        </Region>
       </RegionList>
       <PropertyList>
        <Property>
         <description>triggerEvent</description>
         <value>true</value>
        </Property>
        <Property>
         <description>eventType</description>
         <value>linedetection</value>
        </Property>
       </PropertyList>
      </Target>
     </TargetList>
    </TargetDetection>
   </Metadata>
```

triggerEvent

Optional, alarm is triggered or not, true-trigered, if not triggered, this field is invalid.

recognition

Required, target type, including "human", "vehicle", and "zoology" (animal).

B.12 XML_Metadata_FaceCapture

XML message about face capture metadata

Rule Metadata

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
 <subType>faceSnap</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <ruleID>1</ruleID>
  <RegionList>
   <Region>
    <Point>
     <x>0</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
     <y>600</y>
    </Point>
    <Point>
     <x>0</x>
     <y>600</y>
    </Point>
   </Region>
  </RegionList>
   </Target>
  </TargetList>
 </TargetDetection>
</Metadata>
```

ruleID

Rule ID

RegionList

Coordinates of region that configured with face capture rule.

Real-Time Target Metadata

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
```

```
<subType>faceSnap</subType>
<time>2017-01-01T00:00:00+08:00</time>
<DevInfo>
 <ipAddress>192.168.0.64</ipAddress>
 <portNo>554</portNo>
 <macAddress>28:57:be:ee:d1:5a</macAddress>
 <channel>1</channel>
</DevInfo>
<TargetDetection>
 <TargetList>
  <Target>
   <targetID>1</targetID>
 <ruleID>1</ruleID>
 <recognition>face</recognition>
 <RegionList>
  <Region>
   <Point>
    <x>0</x>
    <y>0</y>
   </Point>
   <Point>
    <x>600</x>
    <y>0</y>
   </Point>
   <Point>
    <x>600</x>
    <y>600</y>
   </Point>
   <Point>
    <x>0</x>
    <y>600</y>
   </Point>
  </Region>
  </RegionList>
  <PropertyList>
 <Property>
  <description>faceScore</description>
  <value>100</value>
 </Property>
   <Property>
  <description>ageGroup</description>
  <value>100</value>
 </Property>
   <Property>
  <description>gender</description>
  <value>male</value>
 </Property>
 </PropertyList>
  </Target>
 </TargetList>
</TargetDetection>
</Metadata>
```

targetID

Person target ID

ruleID

Rule ID

recognition

Recognition target type, here it is face.

RegionList

Coordinates of face target position

B.13 XML_Metadata_QueueManagement

XML message about queue management metadata

Rule Metadata of Waiting Time Detection

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
 <subType>personQueueTime</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <ruleID>1</ruleID>
  <RegionList>
   <Region>
    <Point>
     <x>0</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
     <y>600</y>
    </Point>
    <Point>
     <x>0</x>
     <y>600</y>
      </Point>
```

```
      </Region>
     </RegionList>
     <PropertyList>
      <Property>
     <description>regionColor</description>
     <value>blue</value>
    </Property>
     </PropertyList>
    </Target>
   </TargetList>
 </TargetDetection>
</Metadata>
```

Real-Time Target Metadata of Waiting Time Detection

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>personQueueTime</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <targetID>1</targetID>
   <ruleID>1</ruleID>
   <recognition>human</recognition>
   <RegionList>
    <Region>
     <Point>
      <x>0</x>
      <y>0</y>
     </Point>
     <Point>
      <x>600</x>
      <y>0</y>
     </Point>
     <Point>
      <x>600</x>
        <y>600</y>
     </Point>
     <Point>
      <x>0</x>
      <y>600</y>
     </Point>
     </Region>
    </RegionList>
    <PropertyList>
```

```
      <Property>
     <description>waitTime</description>
     <value>600</value>
     <description>alarmTime</description>
     <value>600</value>
    </Property>
   </PropertyList>
    </Target>
   </TargetList>
 </TargetDetection>
</Metadata>
```

targetID

Person target ID

ruleID

Rule ID

recognition

The recognition target is person.

RegionList

Coordinates of person position.

Rule Metadata of People Queuing-up Detection

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
 <subType>personQueueCounting</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <ruleID>1</ruleID>//rule ID
  <RegionList>//rule frame coordinates
   <Region>
    <Point>
     <x>0</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
     <y>0</y>
    </Point>
    <Point>
     <x>600</x>
```

```
      <y>600</y>
     </Point>
     <Point>
      <x>0</x>
      <y>600</y>
     </Point>
    </Region>
    </RegionList>
    <PropertyList>
    <Property>
     <description>regionColor</description>
     <value>blue</value>
    </Property>
   </PropertyList>
    </Target>
   </TargetList>
 </TargetDetection>
</Metadata>
```

ruleID

Rule ID

RegionList

Coordinates of region that configured with rule.

Real-Time Target Metadata of People Queuing-up Detection

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>personQueueCounting</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <ruleID>1</ruleID>
  <PropertyList>
   <Property>
    <description>count</description>
    <value>5</value>
    <description>alarmCount</description>
    <value>10</value>
   </Property>
    </PropertyList>
   </Target>
  </TargetList>
```

```
  </TargetDetection>
</Metadata>
```

B.14 XML_Metadata_RadarBehaviorAnalysis

XML message about radar behavior analysis metadata

Rule Metadata (Not Triggered)

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTargetRadar</type>
 <subType>behaviorAnalysis</subType>
 <time>2020-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
  <radarChannel>1</radarChannel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <ruleID>1</ruleID>
  <PolarCoordinatesList>
   <Coordinate>
    <angle>30</angle>
    <distance>10</distance>
   </Coordinate>
  </PolarCoordinatesList>
   </Target>
  </TargetList>
 </TargetDetection>
</Metadata>
```

Rule Metadata (Triggered)

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTargetRadar</type>
 <subType>behaviorAnalysis</subType>
 <time>2020-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
  <radarChannel>1</radarChannel>
 </DevInfo>
```

```
 <TargetDetection>
  <TargetList>
   <Target>
     <ruleID>1</ruleID>
  <PolarCoordinatesList>
   <Coordinate>
     <angle>30</angle>
     <distance>10</distance>
   </Coordinate>
  </PolarCoordinatesList>
   </Target>
  </TargetList>
 </TargetDetection>
 <PropertyList>
  <Property>
   <description>eventType</description>
   <value>linedetection</value>
  </Property>
  <Property>
   <description>triggerEvent</description>
   <value>true</value>
  </Property>
  <Property>
   <description>crossdirection</description>
   <value>lefttoright</value>
  </Property>
 </PropertyList>
</Metadata>
```

Detection Region Metadata

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTargetRadar</type>
 <subType>behaviorAnalysis</subType>
 <time>2020-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
  <radarChannel>1</radarChannel>
 </DevInfo>
 <RadarDetectionRegion>
  <angle>30.15</angle>
  <distance>10.50</distance>
  <towards>10.30</towards>
  <VertexPoint>
   <x>0.046</x>
   <y>0.057</y>
  </VertexPoint>
```

```
  </RadarDetectionRegion>
</Metadata>
```

Relative Region Metadata of Video Image

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTargetRadar</type>
 <subType>behaviorAnalysis</subType>
 <time>2020-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
  <radarChannel>1</radarChannel>
 </DevInfo>
 <VideoDetectionRegion>
  <angle>36.66</angle>
  <fieldView>70.88</fieldView>
 </VideoDetectionRegion>
</Metadata>
```

Real-Time Target Metadata (Not Triggered)

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTargetRadar</type>
 <subType>behaviorAnalysis</subType>
 <time>2020-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
  <radarChannel>1</radarChannel>
 </DevInfo>
 <ActivityTargetList>
  <Target>
   <targetID>1</targetID>
   <speed>30</speed>
   <angle>50</angle>
   <distance>30</distance>
  </Target>
 </ActivityTargetList>
</Metadata>
```

Real-Time Target Metadata (Triggered)

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTargetRadar</type>
```

```
<subType>behaviorAnalysis</subType>
<time>2020-01-01T00:00:00+08:00</time>
<DevInfo>
 <ipAddress>192.168.0.64</ipAddress>
 <portNo>554</portNo>
 <macAddress>28:57:be:ee:d1:5a</macAddress>
 <channel>1</channel>
 <radarChannel>1</radarChannel>
</DevInfo>
<ActivityTargetList>
 <Target>
  <targetID>1</targetID>
  <speed>30</speed>
  <angle>50</angle>
  <distance>30</distance>
  <PropertyList>
 <Property>
  <description>triggerEvent</description>
  <value>true</value>
 </Property>
 <Property>
  <description>eventType</description>
  <value>linedetection</value>
 </Property>
  </PropertyList>
 </Target>
</ActivityTargetList>
</Metadata>
```

Property Field Description

eventType

Required, xs: string, sub event type of behavior analysis: linedetection (line crossing detection), fielddetection (intrusion detection).

triggerEvent

Optional, xs: boolean, whether the rule is triggered: true (yes), if it is not triggered, this field will not be returned.

crossdirection

Optional, xs: string, line crossing direction: lefttoright (from left to right), righttoleft (from right to left), bothdirection (bidirection). This field is only valid when the value of **eventType** is "linedetection".

speed

Required, xs: integer, target speed.

distance

Required, xs: integer, target distance (relative to polar coordinate).

angle

Required, xs: float, target angle (relative to polar coordinate).

triggerEvent

Optional, xs: boolean, whether the event has occurred: true (yes). If it does not occur, this field will not be returned.

B.15 XML_Metadata_Thermal

XML message about thermal related (i.e., real-time temperature measurement, fire source detection, and ship detection) metadata

Real-Time Temperature Metadata

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>thermometry</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target> //Average temperature of a line
    <ruleID>1</ruleID>
    <RegionList>
     <Region>
      <Point>
       <x>100</x>
       <y>100</y>
      </Point>
      <Point>
       <x>200</x>
       <y>200</y>
      </Point>
     </Region>
    </RegionList>
    <PropertyList>
     <Property>
      <description>tempValue</description>
      <value>30</value>
     </Property>
     <Property>
      <description>tempUnit</description>
      <value>centigrade</value>
     </Property>
     <Property>
      <description>tempProperty</description>
```

```
         <value>average</value>
      </Property>
   </PropertyList>
</Target>
<Target> //Lowest temperature point of a line
 <ruleID>1</ruleID>
 <RegionList>
  <Region>
   <Point>
     <x>100</x>
     <y>100</y>
   </Point>
  </Region>
 </RegionList>
 <PropertyList>
  <Property>
    <description>tempValue</description>
    <value>20</value>
  </Property>
  <Property>
    <description>tempUnit</description>
    <value>centigrade</value>
  </Property>
  <Property>
    <description>tempProperty</description>
    <value>lowest</value>
  </Property>
 </PropertyList>
</Target>
<Target> //Highest temperature point of a line
 <ruleID>1</ruleID>
 <RegionList>
  <Region>
   <Point>
     <x>200</x>
     <y>200</y>
   </Point>
  </Region>
 </RegionList>
 <PropertyList>
  <Property>
    <description>tempValue</description>
    <value>40</value>
  </Property>
  <Property>
    <description>tempUnit</description>
    <value>centigrade</value>
  </Property>
  <Property>
    <description>tempProperty</description>
    <value>highest</value>
  </Property>
```

```
      </PropertyList>
     </Target>
   </TargetList>
 </TargetDetection>
</Metadata>
```

tempValue

Required, target temperature, float type.

tempUnit

Required, temperature unit, including centigrade, fahrenheit, and kelvin.

tempProperty

Optional, target temperature property, including highest (highest temperature), lowest (lowest temperature), and average (average temperature). This field is invalid when measuring temperature by point.

Fire Source Alarm Metadata

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>fireDetection</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
    <RegionList>
     <Region> //Fire source frame
      <Point>
       <x>0</x>
       <y>0</y>
      </Point>
      <Point>
       <x>600</x>
       <y>0</y>
      </Point>
      <Point>
       <x>600</x>
       <y>600</y>
      </Point>
      <Point>
       <x>0</x>
       <y>600</y>
      </Point>
     </Region>
```

```
    </RegionList>
    <PropertyList>
     <Property>
      <description>distance</description>
      <value>1000</value>
     </Property>
    </PropertyList>
   </Target>
   <Target>
    <RegionList>
     <Region>
      <Point>
       <x>300</x>
       <y>300</y>
      </Point>
     </Region>
    </RegionList>
    <PropertyList>
     <Property>
      <description>tempValue</description>
      <value>100</value>
     </Property>
     <Property>
      <description>tempUnit</description>
      <value>centigrade</value>
     </Property>
     <Property>
      <description>tempProperty</description>
      <value>highest</value>
     </Property>
    </PropertyList>
   </Target>
  </TargetList>
 </TargetDetection>
</Metadata>
```

distance

Optional, fire source distance, unit: m, integer type.

tempValue

Optional, fire source temperature, float type.

tempUnit

Optional, fire source temperature unit, including centigrade, fahrenheit, and kelvin.

tempProperty

Optional, target temperature property, currently, only contains highest (highest temperature).

Rule Metadata of Ship Detection

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>ruleTarget</type>
```

```
<subType>shipsDetection</subType>
<time>2017-01-01T00:00:00+08:00</time>
<DevInfo>
 <ipAddress>192.168.0.64</ipAddress>
 <portNo>554</portNo>
 <macAddress>28:57:be:ee:d1:5a</macAddress>
 <channel>1</channel>
</DevInfo>
<TargetDetection>
 <TargetList>
  <Target>
   <ruleID>1</ruleID>
   <RegionList>
    <Region>
     <Point>
      <x>0</x>
      <y>0</y>
     </Point>
     <Point>
      <x>600</x>
      <y>0</y>
     </Point>
     <Point>
      <x>600</x>
      <y>600</y>
     </Point>
     <Point>
      <x>0</x>
      <y>600</y>
     </Point>
    </Region>
   </RegionList>
  </Target>
 </TargetList>
</TargetDetection>
</Metadata>
```

Real-Time Target Metadata of Ship Detection

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>activityTarget</type>
 <subType>shipsDetection</subType>
 <time>2017-01-01T00:00:00+08:00</time>
 <DevInfo>
  <ipAddress>192.168.0.64</ipAddress>
  <portNo>554</portNo>
  <macAddress>28:57:be:ee:d1:5a</macAddress>
  <channel>1</channel>
 </DevInfo>
 <TargetDetection>
  <TargetList>
   <Target>
```

```
        <targetID>1</targetID>
        <recognition>ship</recognition>
        <ruleID>1</ruleID>
        <RegionList>
         <Region>
          <Point>
           <x>0</x>
           <y>0</y>
          </Point>
          <Point>
           <x>600</x>
           <y>0</y>
          </Point>
          <Point>
           <x>600</x>
           <y>600</y>
          </Point>
          <Point>
           <x>0</x>
           <y>600</y>
          </Point>
         </Region>
        </RegionList>
        <PropertyList>
         <Property>
          <description>direction</description>
          <value>left</value>
         </Property>
         <Property>
          <description>state</description>
          <value>crossing</value>
         </Property>
         <Property>
          <description>length</description>
          <value>50</value>
         </Property>
         <Property>
          <description>height</description>
          <value>3</value>
         </Property>
         <Property>
          <description>width</description>
          <value>5</value>
         </Property>
         <Property>
          <description>speed</description>
          <value>4</value>
         </Property>
        </PropertyList>
       </Target>
      </TargetList>
```

```
</TargetDetection>
</Metadata>
```

direction

> Optional, ship direction, including up (forward), down (backward), left (leftward), and right (rightward).

state

> Optional, ship detection status, including crossing (crossing detection line), nose (prow detection), and tail (stern detection).

length, height, width

> Optional, ship length, height, and width, unit: m.

speed

> Optional, ship speed, unit: m/s.

B.16 XML_MetadataCfg

XML message about batch configuration parameters of metadata

```
<MetadataCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <MetadataList><!--required-->
  <Metadata><!--required-->
   <type>
    <!--required, xs: string, metadata type: "thermometry"-real-time temperature measurement, "fireDetection"-fire
source detection, "shipsDetection"-ship detection, "behaviorAnalysis"-behavior analysis, "ANPR", "personQueue"-
queue management, "faceSnap"-face capture, "radarDetection"-radar detection, "personalTrack"-personal tracking-->
   </type>
   <enable><!--required, xs:boolean: true-upload, false-not upload--></enable>
  </Metadata>
 </MetadataList>
 <uploadDataFormat><!--optional, xs:string--></uploadDataFormat>
</MetadataCfg>
```

B.17 XML_Radar_Metadata

XML message about general medata of radar detection

```
<?xml version="1.0" encoding="utf-8"?>
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>
  <!--required, xs:string, metadata type: ruleTargetRadar (rule metadata of radar detection), activityTargetRadar (real-
time target metadata of radar detection)-->
 </type>
 <subType><!--optional, xs:string, metadata sub type: behaviorAnalysis--></subType>
 <time><!--required, xs:time, based on ISO 8601 time standard--></time>
 <DevInfo><!--optional-->
```

```
    <ipAddress><!--dependent, xs:string--></ipAddress>
    <ipv6Address><!--dependent, xs:string--></ipv6Address>
    <portNo><!--required, xs:integer--></portNo>
    <macAddress><!--required, xs:string--></macAddress>
    <domainName><!--optional, xs:string--></domainName>
    <radarChannel><!--optional, xs:integer, radar channel-->1</radarChannel>
  </DevInfo>
  <TargetDetection><!--optional, rule region (relative to polar coordinate)-->
    <TargetList><!--required-->
      <Target><!--required-->
        <ruleID><!--optional, xs:integer--></ruleID>
      <PolarCoordinatesList><!--optional, polar coordinate list of rule region-->
        <Coordinate><!--polar coordinate of rule region-->
          <angle><!--required, xs:float, angle, value range: [-75,75], unit: degree--></angle>
          <distance><!--required, xs:integer, detection range, the maximum value is 150, unit: m--></distance>
        </Coordinate>
      </PolarCoordinatesList>
      </Target>
    </TargetList>
  </TargetDetection>
  <RadarDetectionRegion><!--radar detection region parameters-->
    <angle><!--required, xs:float, detection angle (unit: degree), which is accurate to two decimal places--></angle>
    <distance><!--required, xs:float, detection range (unit: degree), which is accurate to two decimal places--></distance>
    <towards><!--required, xs:float, detection direction (unit: degree), which is accurate to two decimal places--></towards>
    <VertexPoint><!--coordinates of vertex on radar detection region-->
      <x><!--required, xs:float, X-coordinate, value range: [0.000,1], which is accurate to three decimal places--></x>
      <y><!--required, xs:float, Y-coordinate, value range: [0.000,1], which is accurate to three decimal places--></y>
    </VertexPoint>
  </RadarDetectionRegion>
  <VideoDetectionRegion><!--parameters of video image region that relatives to radar-->
    <angle><!--optional, xs:float, angle, value range: [0.00,359.00]--></angle>
    <fieldView><!--optional, xs:float, field of view, value range: [0.00,180.00]--></fieldView>
  </VideoDetectionRegion>
  <ActivityTargetList><!--real-time target parameter list-->
    <Target>
      <speed><!--required, xs:integer, target moving speed, unit: km/h--></speed>
      <angle><!--required, xs:float, target angle, value range: [-75,75], unit: degree--></angle>
      <distance><!--required, xs:integer, target distance, the maximum value is 150, unit: m--></distance>
    </Target>
  </ActivityTargetList>
  <PropertyList><!--property list-->
    <Property>
      <description><!--property name, xs:string--></description>
      <value><!--property value, xs:object--></value>
    </Property>
  </PropertyList>
</Metadata>
```

Remarks

For different detection types, the metadata details of radar detection are different, see the table below.

Detection Type	Metadata Details
Radar Behavior Analysis	***XML_Metadata_RadarBehaviorAnalysis***

B.18 XML_ResponseStatus

XML message about response status

```
<ResponseStatus version="2.0" xmlns="http://www.std-cgi.org/ver20/XMLSchema">
 <requestURL>
  <!--required, read-only, xs:string, request URL-->
 </requestURL>
 <statusCode>
  <!--required, read-only, xs:integer, status code: 0,1-OK, 2-Device Busy, 3-Device Error, 4-Invalid Operation, 5-Invalid
XML Format, 6-Invalid XML Content, 7-Reboot Required, 9-Additional Error-->
 </statusCode>
 <statusString>
  <!--required, read-only, xs:string, status description: OK, Device Busy, Device Error, Invalid Operation, Invalid XML
Format, Invalid XML Content, Reboot, Additional Error-->
 </statusString>
 <subStatusCode>
  <!--required, read-only, xs:string, describe the error reason in detail-->
 </subStatusCode>
</ResponseStatus>
```

Note

See **Response Codes of Text Protocol** for details about sub status codes and corresponding error codes.

B.19 XML_SingleMetadataCfg

XML message about single configuration parameters of metadata

```
<SingleMetadataCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <Metadata><!--required-->
  <type>
   <!--required, xs: string, metadata type: "thermometry"-real-time temperature measurement, "fireDetection"-fire
source detection, "shipsDetection"-ship detection, "behaviorAnalysis"-behavior analysis, "ANPR", "personQueue"-
queue management, "faceSnap"-face capture, "radarDetection"-radar detection, "personalTrack"-personal tracking-->
  </type>
  <enable><!--required, xs: boolean, "true"-upload, "false"-not upload--></enable>
```

```
  </Metadata>
</SingleMetadataCfg>
```

B.20 XML_Video_Metadata

XML message about general metadata of video

```
<Metadata version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <type>
   <!--required, xs:string, ruleTarget (rule metadata), activityTarget (real-time target metadata), PTZ (PTZ metadata);
the rules will be uploaded when request started and rule changed only, while the real-time target will be uploaded
when it is detected-->
 </type>
 <subType>
   <!--optional, xs:string, sub metadata type: "thermometry"-real-time temperature measurement, "fireDetection"-fire
source detection, "shipsDetection"-ship detection, "behaviorAnalysis"-behavior analysis, "ANPR", "personQueue"-
queue management, "faceSnap"-face capture, "personalTrack"-personal tracking; when the target is not in the
detection rule range, it will not be uploaded-->
 </subType>
 <time><!--required, xs:time, ISO8601, it corrects to millisecond, e.g., 2017-01-11T17:43:30.256+08:00--></time>
 <DevInfo><!--optional, device information, it is used to differentiate the device when crossing domain and
multicasting-->
   <ipAddress><!--dependent, xs:string--></ipAddress>
   <ipv6Address><!--dependent, xs:string--></ipv6Address>
   <portNo><!--required,  xs:integer--></portNo>
   <macAddress><!--required,  xs:string--></macAddress>
   <channel><!--dependent, xs:integer --></channel>
   <domainName><!--optional, xs:string--></domainName>
 </DevInfo>
 <TargetDetection><!--optional-->
  <TargetList><!--required,  uploading multiple targets at same time is allowed-->
   <Target><!--required-->
    <targetID>
     <!--optional, xs:integer, target ID, it is valid for the real-time target uploading of ship detection and behavior
analysis.
       The system or client can draw the moving target pattern according to this field-->
    </targetID>
    <recognition><!—optional,xs:string, "human, vehicle, ship"--></recognition>
    <ruleID><!—optional,xs:integer, detection rule ID--></ruleID>
    <RegionList><!--optional, target position, it will not be uploaded when the rule is invalid, point, line, and region-->
     <Region>
      <Point>
       <x><!--required,  xs:integer--></x>
       <y><!--required,  xs:integer--></y>
      </Point>
     </Region>
    </RegionList>
    <PropertyList> <!--optional, target attribute-->
     <Property>
       <description><!--optional--></description>
```

```
            <value><!--optional--></value>
        </Property>
      </PropertyList>
    </Target>
  </TargetList>
 </TargetDetection>
 <PTZInfo><!--optional, PTZ position-->
  <elevation><!--required, xs:float, -90.000 to 270.000--></elevation>
  <azimuth><!--required, xs:float, 0 to 360.000--></azimuth>
  <zoom><!--optional, xs:float, 0 to 100000.00--></zoom>
  <focus><!--optional, xs:integer, 0 to 100000--></focus>
  <presetNo><!—optional, xs:integer--></presetNo>
 </PTZInfo>
</Metadata>
```

Remarks

For different detection types, the metadata details are different, see the table below.

Detection Type	Metadata Details
Thermal Related (Real-Time Temperature Measurement, Fire Source Detection, and Ship Detection)	*XML_Metadata_Thermal*
Behavior Analysis	*XML_Metadata_BehaviorAnalysis*
ANPR	*XML_Metadata_ANPR*
Queue Management (Waiting Time Detection and People Queuing-up Detection)	*XML_Metadata_QueueManagement*
Face Capture	*XML_Metadata_FaceCapture*

Appendix C. Response Codes of Text Protocol

The response codes returned during the text protocol integration is based on the status codes of HTTP. 7 kinds of status codes are predefined, including 1 (OK), 2 (Device Busy), 3 (Device Error), 4 (Invalid Operation), 5 (Invalid Message Format), 6 (Invalid Message Content), and 7 (Reboot Required). Each kind of status code contains multiple sub status codes, and the response codes are in a one-to-one correspondence with the sub status codes.

StatusCode=1

SubStatusCode	Error Code	Description
ok	0x1	Operation completed.
riskPassword	0x10000002	Risky password.
armProcess	0x10000005	Arming process.

StatusCode=2

Sub Status Code	Error Code	Description
noMemory	0x20000001	Insufficient memory.
serviceUnavailable	0x20000002	The service is not available.
upgrading	0x20000003	Upgrading.
deviceBusy	0x20000004	The device is busy or no response.
reConnectIpc	0x20000005	The video server is reconnected.
transferUpgradePackageFailed	0x20000006	Transmitting device upgrade data failed.
startUpgradeFailed	0x20000007	Starting upgrading device failed.
getUpgradeProcessfailed.	0x20000008	Getting upgrade status failed.
certificateExist	0x2000000B	The Authentication certificate already exists.

StatusCode=3

Sub Status Code	Error Code	Description
deviceError	0x30000001	Hardware error.
badFlash	0x30000002	Flash operation error.
28181Uninitialized	0x30000003	The 28181 configuration is not initialized.
socketConnectError	0x30000005	Connecting to socket failed.
receiveError	0x30000007	Receive response message failed.
deletePictureError	0x3000000A	Deleting picture failed.
pictureSizeExceedLimit	0x3000000C	Too large picture size.
clearCacheError	0x3000000D	Clearing cache failed.
updateDatabasError	0x3000000F	Updating database failed.
searchDatabaseError	0x30000010	Searching in the database failed.
writeDatabaseError	0x30000011	Writing to database failed.
deleteDatabaseError	0x30000012	Deleting database element failed.
searchDatabaseElementError	0x30000013	Getting number of database elements failed.
cloudAutoUpgradeException	0x30000016	Downloading upgrade packet from cloud and upgrading failed.
HBPException	0x30001000	HBP exception.
UDEPException	0x30001001	UDEP exception
elasticSearchException	0x30001002	Elastic exception.
kafkaException	0x30001003	Kafka exception.
HBaseException	0x30001004	Hbase exception.
sparkException	0x30001005	Spark exception.
yarnException	0x30001006	Yarn exception.
cacheException	0x30001007	Cache exception.

Sub Status Code	Error Code	Description
trafficException	0x30001008	Monitoring point big data server exception.
faceException	0x30001009	Human face big data server exception.
SSDFileSystemIsError	0x30001013	SSD file system error (Error occurs when it is non-Ext4 file system)
insufficientSSDCapacityForFPD	0x30001014	Insufficient SSD space for person frequency detection
wifiException	0x3000100A	Wi-Fi big data server exception
structException	0x3000100D	Video parameters structure server exception.
calibrationTimeout	0x30002051	Calibration timed out.
captureTimeout	0x30006000	Data collection timed out.
lowScore	0x30006001	Low quality of collected data.
uploadingFailed	0x30007004	Uploading failed.

StatusCode=4

Sub Status Code	Error Code	Description
notSupport	0x40000001	Not supported.
lowPrivilege	0x40000002	No permission.
badAuthorization	0x40000003	Authentication failed.
methodNotAllowed	0x40000004	Invalid HTTP method.
notSetHdiskRedund	0x40000005	Setting spare HDD failed.
invalidOperation	0x40000006	Invalid operation.
notActivated	0x40000007	Inactivated.
hasActivated	0x40000008	Activated.
certificateAlreadyExist	0x40000009	The certificate already exists.
operateFailed	0x4000000F	Operation failed.
USBNotExist	0x40000010	USB device is not connected.

Sub Status Code	Error Code	Description
upgradePackageMorethan2GB	0x40001000	Up to 2GB upgrade package is allowed to be uploaded.
IDNotexist	0x40001001	The ID does not exist.
synchronizationError	0x40001003	Synchronization failed.
synchronizing	0x40001004	Synchronizing.
importError	0x40001005	Importing failed.
importing	0x40001006	Importing.
fileAlreadyExists	0x40001007	The file already exists.
invalidID	0x40001008	Invalid ID.
backupnodeNotAlloweLog	0x40001009	Accessing to backup node is not allowed.
exportingError	0x4000100A	Exporting failed.
exporting	0x4000100B	Exporting.
exportEnded	0x4000100C	Exporting stopped.
exported	0x4000100D	Exported.
IPOccupied	0x4000100E	The IP address is already occupied.
IDAlreadyExists	0x4000100F	The ID already exists.
exportItemsExceedLimit	0x40001010	No more items can be exported.
noFiles	0x40001011	The file does not exist.
beingExportedByAnotherUser	0x40001012	Being exported by others.
needReAuthentication	0x40001013	Authentication is needed after upgrade.
unitAddNotOnline	0x40001015	The added data analysis server is offline.
unitControl	0x40001016	The data analysis server is already added.
analysis unitFull	0x40001017	No more data analysis server can be added.
unitIDError	0x40001018	The data analysis server ID does not exist.
unitExit	0x40001019	The data analysis server already exists in the list.
unitSearch	0x4000101A	Searching data analysis server in the list failed.

Sub Status Code	Error Code	Description
unitNotOnline	0x4000101B	The data analysis server is offline.
unitInfoError	0x4000101C	Getting data analysis server information failed.
unitGetNodeInfoError	0x4000101D	Getting node information failed.
unitGetNetworkInfoError	0x4000101E	Getting the network information of data analysis server failed
unitSetNetworkInfoError	0x4000101F	Setting the network information of data analysis server failed
setSmartNodeInfoError	0x40001020	Setting node information failed.
setUnitNetworkInfoError	0x40001021	Setting data analysis server network information failed.
unitRestartCloseError	0x40001022	Rebooting or shutting down data analysis server failed.
virtualIPnotAllowed	0x40001023	Adding virtual IP address is not allowed.
unitInstalled	0x40001024	The data analysis server is already installed.
badSubnetMask	0x40001025	Invalid subnet mask.
uintVersionMismatched	0x40001026	Data analysis server version mismatches.
deviceMOdelMismatched	0x40001027	Adding failed. Device model mismatches.
unitAddNotSelf	0x40001028	Adding peripherals is not allowed.
noValidUnit	0x40001029	No valid data analysis server.
unitNameDuplicate	0x4000102A	Duplicated data analysis server name.
deleteUnitFirst	0x4000102B	Delete the added data analysis server of the node first.
getLocalInfoFailed	0x4000102C	Getting the server information failed.
getClientAddedNodeFailed	0x4000102D	Getting the added node information of data analysis server failed.
taskExit	0x4000102E	The task already exists.
taskInitError	0x4000102F	Initializing task failed.
taskSubmitError	0x40001030	Submiting task failed.
taskDelError	0x40001031	Deleting task failed.

Sub Status Code	Error Code	Description
taskPauseError	0x40001032	Pausing task failed.
taskContinueError	0x40001033	Starting task failed.
taskSeverNoCfg	0x40001035	Full-text search server is not configured.
taskPicSeverNoCfg	0x40001036	The picture server is not configured.
taskStreamError	0x40001037	Streaming information exception.
taskRecSDK	0x40001038	History recording is not supported.
taskCasaError	0x4000103A	Cascading is not supported.
taskVCARuleError	0x4000103B	Invalid VCA rule.
taskNoRun	0x4000103C	The task is not executed.
unitLinksNoStorageNode	0x4000103D	No node is linked with the data analysis server. Configure the node first.
searchFailed	0x4000103E	Searching video files failed.
searchNull	0x4000103F	No video clip.
userScheOffline	0x40001040	The task scheduler service is offline.
updateTypeUnmatched	0x40001041	The upgrade package type mismatches.
userExist	0x40001043	The user already exists.
userCannotDelAdmin	0x40001044	The administrator cannot be deleted.
userInexistence	0x40001045	The user name does not exist.
userCannotCreatAdmin	0x40001046	The administrator cannot be created.
monitorCamExceed	0x40001048	Up to 3000 cameras can be added.
monitorCunitOverLimit	0x40001049	Adding failed. Up to 5 lower-levels are supported by the control center.
monitorReginOverLimit	0x4000104A	Adding failed. Up to 5 lower-levels are supported by the area.
monitorArming	0x4000104B	The camera is already armed. Disarm the camera and try again.
monitorSyncCfgNotSet	0x4000104C	The system parameters are not configured.
monitorFdSyncing	0x4000104E	Synchronizing. Try again after completing the synchronization.

Sub Status Code	Error Code	Description
monitorParseFailed	0x4000104F	Parsing camera information failed.
monitorCreatRootFailed	0x40001050	Creating resource node failed.
deleteArmingInfo	0x40001051	The camera is already . Disarm the camera and try again.
cannotModify	0x40001052	Editing is not allowed. Select again.
cannotDel	0x40001053	Deletion is not allowed. Select again.
deviceExist	0x40001054	The device already exists.
IPErrorConnectFailed	0x40001056	Connection failed. Check the network port.
cannotAdd	0x40001057	Only the capture cameras can be added.
serverExist	0x40001058	The server already exists.
fullTextParamError	0x40001059	Incorrect full-text search parameters.
storParamError	0x4000105A	Incorrect storage server parameters.
picServerFull	0x4000105B	The storage space of picture storage server is full.
NTPUnconnect	0x4000105C	Connecting to NTP server failed. Check the parameters.
storSerConnectFailed	0x4000105D	Connecting to storage server failed. Check the network port.
storSerLoginFailed	0x4000105E	Logging in to storage server failed. Check the user name and password.
searchSerConnectFailed	0x4000105F	Connecting to full-text search server failed. Check the network port.
searchSerLoginFailed	0x40001060	Logging in to full-text search server failed. Check the user name and password.
kafkaConnectFailed	0x40001061	Connecting to Kafka failed. Check the network port.
mgmtConnectFailed	0x40001062	Connecting to system failed. Check the network port.
mgmtLoginFailed	0x40001063	Logging in to system failed. Check the user name and password.

Sub Status Code	Error Code	Description
TDAConnectFailed	0x40001064	Connecting to traffic data access server failed. Checking the server status.
86sdkConnectFailed	0x40001065	Connecting to listening port of iVMS-8600 System failed. Check the parameters.
nameExist	0x40001066	Duplicated server name.
batchProcessFailed	0x40001067	Processing in batch failed.
IDNotExist	0x40001068	The server ID does not exist.
serviceNumberReachesLimit	0x40001069	No more service can be added.
invalidServiceType.	0x4000106A	Invalid service type.
clusterGetInfo	0x4000106B	Getting cluster group information failed.
clusterDelNode	0x4000106C	Deletion node failed.
clusterAddNode	0x4000106D	Adding node failed.
clusterInstalling	0x4000106E	Creating cluster…Do not operate.
clusterUninstall	0x4000106F	Reseting cluster…Do not operate.
clusterInstall	0x40001070	Creating cluster failed.
clusterIpError	0x40001071	Invalid IP address of task scheduler server.
clusterNotSameSeg	0x40001072	The master node and slave node must be in the same network segment.
clusterVirIpError	0x40001073	Automatically getting virtual IP address failed. Enter manually.
clusterNodeUnadd	0x40001074	The specified master(slave) node is not added.
clusterNodeOffline	0x40001075	The task scheduler server is offline.
nodeNotCurrentIP	0x40001076	The analysis node of the current IP address is required when adding master and slave nodes.
addNodeNetFailed	0x40001077	Adding node failed. The network disconnected.
needTwoMgmtNode	0x40001078	Two management nodes are required when adding master and slave nodes.
ipConflict	0x40001079	The virtual IP address and data analysis server's IP address conflicted.
ipUsed	0x4000107A	The virtual IP address has been occupied.

Sub Status Code	Error Code	Description
cloudAlalyseOnline	0x4000107B	The cloud analytic server is online.
virIP&mainIPnotSame NetSegment	0x4000107C	The virtual IP address is not in the same network segment with the IP address of master/slave node.
getNodeDispatchInfoFa iled	0x4000107D	Getting node scheduler information failed.
unableModifyManage mentNetworkIP	0x4000107E	Editing management network interface failed. The analysis board is in the cluster.
notSpecifyVirtualIP	0x4000107F	Virtual IP address should be specified for master and slave cluster.
armingFull	0x40001080	No more device can be armed.
armingNoFind	0x40001081	The arming information does not exist.
disArming	0x40001082	Disarming failed.
getArmingError	0x40001084	Getting arming information failed.
refreshArmingError	0x40001085	Refreshing arming information failed.
ArmingPlateSame	0x40001086	The license plate number is repeatedly armed.
ArmingParseXLSError	0x40001087	Parsing arming information file failed.
ArmingTimeError	0x40001088	Invalid arming time period.
ArmingSearchTimeErro r	0x40001089	Invalid search time period.
armingRelationshipRea chesLimit	0x4000108A	No more relation can be created.
duplicateAarmingNam e	0x4000108B	The relation name already exists.
noMoreArmingListAdd ed	0x4000108C	No more blacklist library can be armed.
noMoreCamerasAdded	0x4000108D	No more camera can be armed.
noMoreArmingListAdd edWithCamera	0x4000108E	No more library can be linked to the camera.
noMoreArmingPeriodA dded	0x4000108F	No more time period can be added to the arming schedule.

Sub Status Code	Error Code	Description
armingPeriodsOverlapped	0x40001090	The time periods in the arming schedule are overlapped.
noArmingAlarmInfo	0x40001091	The alarm information does not exist.
armingAlarmUnRead	0x40001092	Getting number of unread alarms failed.
getArmingAlarmError	0x40001093	Getting alarm information failed.
searchByPictureTimedOut	0x40001094	Searching picture by picture timeout. Search again.
comparisonTimeRangeError	0x40001095	Comparison time period error.
selectMonitorNumberUpperLimit	0x40001096	No more monitoring point ID can be filtered.
noMoreComparisonTasksAdded	0x40001097	No more comparison task can be executed at the same time.
GetComparisonResultFailed	0x40001098	Getting comparison result failed.
comparisonTypeError	0x40001099	Comparison type error.
comparisonUnfinished	0x4000109A	The comparison is not completed.
facePictureModelInvalid	0x4000109B	Invalid face model.
duplicateLibraryName.	0x4000109C	The library name already exists.
noRecord	0x4000109D	No record found.
countingRecordsFailed.	0x4000109E	Calculate the number of records failed.
getHumanFaceFrameFailed	0x4000109F	Getting face thumbnail from the picture failed.
modelingFailed.	0x400010A0	Modeling face according to picture URL failed.
1V1FacePictureComparisonFailed	0x400010A1	Comparison 1 VS 1 face picture failed.
libraryArmed	0x400010A2	The blacklist library is armed.
licenseExeedLimit	0x400010A3	Dongle limited.
licenseExpired	0x400010A4	Dongle expired.
licenseDisabled	0x400010A5	Unavailable dongle.

Sub Status Code	Error Code	Description
licenseNotExist	0x400010A6	The dongle does not exist.
SessionExpired	0x400010A7	Session expired .
beyondConcurrentLimit	0x400010A8	Out of concurrent limit.
stopSync	0x400010A9	Synchronization stopped.
getProgressFaild	0x400010AA	Getting progress failed.
uploadExtraCaps	0x400010AB	No more files can be uploaded.
timeRangeError	0x400010AC	Time period error.
dataPortNotConnected	0x400010AD	The data port is not connected.
addClusterNodeFailed	0x400010AE	Adding to the cluster failed. The device is already added to other cluster.
taskNotExist	0x400010AF	The task does not exist.
taskQueryFailed	0x400010B0	Searching task failed.
modifyTimeRuleFailed	0x400010B2	The task already exists. Editing time rule is not allowed.
modifySmartRuleFailed	0x400010B3	The task already exists. Editing VAC rule is not allowed.
queryHistoryVideoFailed	0x400010B4	Searching history video failed.
addDeviceFailed	0x400010B5	Adding device failed.
addVideoFailed	0x400010B6	Adding video files failed.
deleteAllVideoFailed	0x400010B7	Deleting all video files failed.
createVideoIndexFailed	0x400010B8	Indexing video files failed.
videoCheckTypeFailed	0x400010B9	Verifying video files types failed.
configStructuredAddressFailed	0x400010BA	Configuring IP address of structured server failed.
configPictureServerAddressFailed	0x400010BB	Configuring IP address of picture stored server failed.
storageServiceIPNotExist	0x400010BD	The storage server IP address does not exist.

Sub Status Code	Error Code	Description
syncBackupDatabaseFailed	0x400010BE	Synchronizing slave database failed. Try again.
syncBackupNTPTimeFailed	0x400010BF	Synchronizing NTP time of slave server failed.
clusterNotSelectLoopbackAddress	0x400010C0	Loopbacl address is not supported by the master or slave cluster.
addFaceRecordFailed	0x400010C1	Adding face record failed.
deleteFaceRecordFailed	0x400010C2	Deleting face record failed.
modifyFaceRecordFailed	0x400010C3	Editing face record failed.
queryFaceRecordFailed	0x400010C4	Searching face record failed.
faceDetectFailed	0x400010C5	Detecting face failed.
libraryNotExist	0x400010C6	The library does not exist.
blackListQueryExporting	0x400010C7	Exporting matched blacklists.
blackListQueryExported	0x400010C8	The matched blacklists are exported.
blackListQueryStopExporting	0x400010C9	Exporting matched blacklists is stopped.
blackListAlarmQueryExporting	0x400010CA	Exporting matched blacklist alarms.
blackListAlarmQueryExported	0x400010CB	The matched blacklists alarms are exported.
blackListAlarmQueryStopExporting	0x400010CC	Exporting matched blacklist alarms is stopped.
getBigDataCloudAnalysisFailed	0x400010CD	Getting big data cloud analytic information failed.
setBigDataCloudAnalysisFailed	0x400010CE	Configuring big data cloud analytic failed.
submitMapSearchFailed	0x400010CF	Submitting search by picture task failed.

Sub Status Code	Error Code	Description
controlRelationshipNotExist	0x400010D0	The relation does not exist.
getHistoryAlarmInfoFailed	0x400010D1	Getting history alarm information failed.
getFlowReportFailed	0x400010D2	Getting people counting report failed.
addGuardFailed	0x400010D3	Adding arming configuration failed.
deleteGuardFailed	0x400010D4	Deleting arming configuration failed.
modifyGuardFailed	0x400010D5	Editing arming configuration failed.
queryGuardFailed	0x400010D6	Searching arming configurations failed.
uploadUserSuperCaps	0x400010D7	No more user information can be uploaded.
bigDataServerConnectFailed	0x400010D8	Connecting to big data server failed.
microVideoCloudRequestInfoBuildFailed	0x400010D9	Adding response information of micro video cloud failed.
microVideoCloudResponseInfoBuildFailed	0x400010DA	Parsing response information of micro video cloud failed.
transcodingServerRequestInfoBuildFailed	0x400010DB	Adding response information of transcoding server failed.
transcodingServerResponseInfoParseFailed	0x400010DC	Parsing response information of transcoding server failed.
transcodingServerOffline	0x400010DD	Transcoding server is offline.
microVideoCloudOffline	0x400010DE	Micro video cloud is offline.
UPSServerOffline	0x400010DF	UPS monitor server is offline.
statisticReportRequestInfoBuildFailed	0x400010E0	Adding response information of statistics report failed.
statisticReportResponseInfoParseFailed	0x400010E1	Parsing response information of statistics report failed.
DisplayConfigInfoBuildFailed	0x400010E2	Adding display configuration information failed.
DisplayConfigInfoParseFailed	0x400010E3	Parsing display configuration information failed.

Sub Status Code	Error Code	Description
DisplayConfigInfoSaveFailed	0x400010E4	Saving display configuration information failed.
notSupportDisplayConfigType	0x400010E5	The display configuration type is not supported.
passError	0x400010E7	Incorrect password.
upgradePackageLarge	0x400010EB	Too large upgrade package.
sesssionUserReachesLimit	0x400010EC	No more user can log in via session.
ISO 8601TimeFormatError	0x400010ED	Invalid ISO8601 time format.
clusterDissolutionFailed	0x400010EE	Deleting cluster failed.
getServiceNodeInfoFailed	0x400010EF	Getting service node information failed.
getUPSInfoFailed	0x400010F0	Getting UPS configuration information failed.
getDataStatisticsReportFailed	0x400010F1	Getting data statistic report failed.
getDisplayConfigInfoFailed	0x400010F2	Getting display configuration failed.
namingAnalysisBoardNotAllowed	0x400010F3	Renaming analysis board is not allowed.
onlyDrawRegionsOfConvexPolygon	0x400010F4	Only drawing convex polygon area is supported.
bigDataServerResponseInfoParseFailed	0x400010F5	Parsing response message of big data service failed.
bigDataServerReturnFailed	0x400010F6	No response is returned by big data service.
microVideoReturnFailed	0x400010F7	No response is returned by micro video cloud service.
transcodingServerReturnFailed	0x400010F8	No response is returned by transcoding service.
UPSServerReturnFailed	0x400010F9	No response is returned by UPS monitoring service.

Sub Status Code	Error Code	Description
forwardingServer ReturnFailed	0x400010FA	No response is returned by forwarding service.
storageServer ReturnFailed	0x400010FB	No response is returned by storage service.
cloudAnalysisServerRet urnFailed	0x400010FC	No response is returned by cloud analytic service.
modelEmpty	0x400010FD	No model is obtained.
mainAndBackupNodeC annotModifyManagem entNetworkInterfaceIP	0x400010FE	Editing the management interface IP address of master node and backup node is not allowed.
IDTooLong	0x400010FF	The ID is too long.
pictureCheckFailed	0x40001100	Detecting picture failed.
pictureModelingFailed	0x40001101	Modeling picture failed.
setCloudAnalsisDefault ProvinceFailed	0x40001102	Setting default province of cloud analytic service failed.
InspectionAreasNumbe rExceedLimit	0x40001103	No more detection regions can be added.
picturePixelsTooLarge	0x40001105	The picture resolution is too high.
picturePixelsTooSmall	0x40001106	The picture resolution is too low.
storageServiceIPEmpty	0x40001107	The storage server IP address is required.
bigDataServerRequestI nfoBuildFail	0x40001108	Creating request message of big data service failed.
analysiTimedOut	0x40001109	Analysis time out.
high-performanceModeDisa bled.	0x4000110A	Please enable high-performance mode.
configuringUPSMonito ringServerTimedOut	0x4000110B	Configuring the UPS monitoring server time out. Check IP address.
cloudAnalysisRequestI nformationBuildFailed	0x4000110C	Creating request message of cloud analytic service failed.
cloudAnalysisResponse InformationParseFailed	0x4000110D	Parsing response message of cloud analytic service failed.

Sub Status Code	Error Code	Description
allCloudAnalysisInterfaceFailed	0x4000110E	Calling API for cloud analytic service failed.
cloudAnalysisModelCompareFailed	0x4000110F	Model comparison of cloud analytic service failed.
cloudAnalysisFacePictureQualityRatingFailed	0x40001110	Getting face quality grading of cloud analytic service failed.
cloudAnalysisExtractFeaturePointsFailed	0x40001111	Extracting feature of cloud analytic service failed.
cloudAnalysisExtractPropertyFailed	0x40001112	Extracting property of cloud analytic service failed.
getAddedNodeInformationFailed	0x40001113	Getting the added nodes information of data analysis server failed.
noMoreAnalysisUnitsAdded	0x40001114	No more data analysis servers can be added.
detectionAreaInvalid	0x40001115	Invalid detection region.
shieldAreaInvalid	0x40001116	Invalid shield region.
noMoreShieldAreasAdded	0x40001117	No more shield region can be drawn.
onlyAreaOfRectangleShapeAllowed	0x40001118	Only drawing rectangle is allowed in detection area.
numberReachedLlimit	0x40001119	Number reached the limit.
wait1~3MinutesGetIPAfterSetupDHCP	0x4000111A	Wait 1 to 3 minutes to get IP address after configuring DHCP.
plannedTimeMustbeHalfAnHour	0x4000111B	Schedule must be half an hour.
oneDeviceCannotBuildCluster	0x4000111C	Creating master and backup cluster requires at least two devices.
updatePackageFileNotUploaded	0x4000111E	Upgrade package is not uploaded.
highPerformanceTasksNotSupportDrawingDetectionRegions	0x4000111F	Drawing detection area is not allowed under high-performance mode.

Sub Status Code	Error Code	Description
controlCenterIDDoesNotExist	0x40001120	The control center ID does not exist.
regionIDDoesNotExist	0x40001121	The area ID does not exist.
licensePlateFormatError	0x40001122	Invalid license plate format.
managementNodeDoesNotSupportThisOperation	0x40001123	The operation is not supported.
searchByPictureResourceNotConfiged	0x40001124	The conditions for searching picture by picture are not configured.
videoFileEncapsulationFormatNotSupported	0x40001125	The video container format is not supported.
videoPackageFailure	0x40001126	Converting video container format failed.
videoCodingFormatNotSupported	0x40001127	Video coding format is not supported.
monitorOfDeviceArmingdeleteArmingInfo	0x40001129	The camera is armed. Disarm it and try again.
getVideoSourceTypeFailed	0x4000112A	Getting video source type failed.
smartRulesBuildFailed	0x4000112B	Creating VAC rule failed.
smartRulesParseFailed	0x4000112C	Parsing VAC rule failed.
timeRulesBuildFailed	0x4000112D	Creating time rule failed.
timeRulesParseFailed	0x4000112E	Parsing time rule failed.
monitoInfoInvalid	0x4000112F	Invalid camera information.
addingFailedVersionMismatches	0x40001130	Adding failed. The device version mismatches.
theInformationReturnedAfterCloudAnalysisIsEmpty	0x40001131	No response is returned by the cloud analytic service.
selectingIpAddressOfHostAndSpareNodeFailedCheckTheStatus	0x40001132	Setting IP address for master node and backup node failed. Check the node status.

Sub Status Code	Error Code	Description
theSearchIdDoesNotExist	0x40001133	The search ID does not exist.
theSynchronizationIdDoesNotExist	0x40001134	The synchronization ID does not exist.
theUserIdDoesNotExist	0x40001136	The user ID does not exist.
theIndexCodeDoesNotExist	0x40001138	The index code does not exist.
theControlCenterIdDoesNotExist	0x40001139	The control center ID does not exist.
theAreaIdDoesNotExist	0x4000113A	The area ID does not exist.
theArmingLinkageIdDoesNotExist	0x4000113C	The arming relationship ID does not exist.
theListLibraryIdDoesNotExist	0x4000113D	The list library ID does not exist.
invalidCityCode	0x4000113E	Invalid city code.
synchronizingThePasswordOfSpareServerFailed	0x4000113F	Synchronizing backup system password failed.
editingStreamingTypeIsNotSupported	0x40001140	Editing streaming type is not supported.
switchingScheduledTaskToTemporaryTaskIsNotSupported	0x40001141	Switching scheduled task to temporary task is not supported.
switchingTemporaryTaskToScheduledTaskIsNotSupported	0x40001142	Switching temporary task to scheduled task is not supported.
theTaskIsNotDispatchedOrItIsUpdating	0x40001143	The task is not dispatched or is updating.
thisTaskDoesNotExist	0x40001144	This task does not exist in the cloud analytic serice.
duplicatedSchedule	0x40001145	Schedule period cannot be overlapped.
continuousScheduleWithSameAlgorithmTypeShouldBeMerged	0x40001146	The continuous schedule periods with same algorithm type should be merged.

Sub Status Code	Error Code	Description
invalidStreamingTimeRange	0x40001147	Invalid streaming time period.
invalidListLibraryType	0x40001148	Invalid list library type.
theNumberOfMatchedResultsShouldBeLargerThan0	0x40001149	The number of search results should be larger than 0.
invalidValueRangeOfSimilarity	0x4000114A	Invalid similarity range.
invalidSortingType	0x4000114B	Invalid sorting type.
noMoreListLibraryCanBeLinkedToTheDevice	0x4000114C	No more lists can be added to one device.
InvalidRecipientAddressFormat	0x4000114D	Invalid address format of result receiver.
creatingClusterFailedTheDongleIsNotPluggedIn	0x4000114E	Insert the dongle before creating cluster.
theURLIsTooLong	0x4000114F	No schedule configured for the task.
noScheduleIsConfiguredForTheTask	0x40001150	No schedule configured for the task.
theDongleIsExpiried	0x40001151	Dongle has expired.
dongleException	0x40001152	Dongle exception.
invalidKey	0x40001153	Invalid authorization service key.
decryptionFailed	0x40001154	Decrypting authorization service failed.
encryptionFailed	0x40001155	Encrypting authorization service failed.
AuthorizeServiceResponseError	0x40001156	Authorization service response exception.
incorrectParameter	0x40001157	Authorization service parameters error.
operationFailed	0x40001158	Operating authorization service error.
noAnalysisResourceOrNoDataInTheListLibrary	0x40001159	No cloud analytic resources or no data in the list library.
calculationException	0x4000115A	Calculation exception.
allocatingList	0x4000115B	Allocating list.

Sub Status Code	Error Code	Description
thisOperationIsNotSupportedByTheCloudAnalytics	0x4000115C	This operation is not supported by the cloud analytic serice.
theCloudAnalyticsIsInterrupted	0x4000115D	The operation of cloud analytic serice is interrupted.
theServiceIsNotReady	0x4000115E	The service is not ready.
searchingForExternalApiFailed	0x4000115F	Searching external interfaces failed.
noOnlineNode	0x40001160	No node is online.
noNodeAllocated	0x40001161	No allocated node.
noMatchedList	0x40001162	No matched list.
allocatingFailedTooManyFacePictureLists	0x40001163	Allocation failed. Too many lists of big data service.
searchIsNotCompletedSearchAgain	0x40001164	Current searching is not completed. Search again.
allocatingListIsNotCompleted	0x40001165	Allocating list is not completed.
searchingForCloudAnalyticsResultsFailed	0x40001166	Searching cloud analytic serice overtime.
noDataOfTheCurrentLibraryFound	0x40001167	No data in the current library. Make sure there is data in the Hbase.
noFacePictureLibraryIsArmed	0x40001168	No face picture library is armed for big data service.
noAvailableDataSlicingVersionInformationArmFirstAndSliceTheData	0x40001169	Invalid standard version information.
duplicatedOperationDataSlicingIsExecuting	0x4000116A	Slicing failed. Duplicated operation.
slicinDataFailedNoArmedFacePictureLibrary	0x4000116B	Slicing failed. No arming information in the face big data.
GenerateBenchmarkFileFailedSlicingAgain	0x4000116C	Generating sliced file failed. Slice again.

Sub Status Code	Error Code	Description
NonprimaryNodeIsProhibitedFromSlcingData	0x4000116D	Slicing is not allowed by the backup node.
NoReadyNodeToClusterServers	0x4000116E	Creating the cluster failed. No ready node.
NodeManagementServiceIsOffline	0x4000116F	The node management server is offline.
theCamera(s)OfTheControlCenterAreAlreadyArmed.DisarmThemFirst	0x40001170	Some cameras in control center are already armed. Disarm them and try again.
theCamera(s)OfTheAreaAreAlreadyArmed.DisarmThemFirst	0x40001171	Some cameras in this area are already armed. Disarm them and try again.
configuringHigh-frequencyPeopleDetectionFailed	0x40001172	Configuring high frequency people detection failed.
searchingForHigh-frequencyPeopleDetectionLogsFailed.	0x40001173	Searching detection event logs of high-frequency people detection failed.
gettingDetailsOfSearchedHigh-frequencyPeopleDetectionLogsFailed.	0x40001174	Getting the search result details of high frequency alarms failed.
theArmedCamerasAlreadyExistInTheControlCenter	0x40001175	Some cameras in control center are already armed.
disarmingFailedTheCameraIsNotArmed	0x40001177	Disarming failed. The camera is not armed.
noDataReturned	0x40001178	No response is returned by the big data service.
preallocFailure	0x40001179	Pre-allocating algorithm resource failed.
overDogLimit	0x4000117A	Configuration failed. No more resources can be pre-allocated.
analysisServicesDoNotSupport	0x4000117B	Not supported.

Sub Status Code	Error Code	Description
commandAndDispatch ServiceError	0x4000117C	Scheduling service of cloud analytic serice error.
engineModuleError	0x4000117D	Engine module of cloud analytic serice error.
streamingServiceError	0x4000117E	Streaming component of cloud analytic serice error.
faceAnalysisModuleError	0x4000117F	Face analysis module of cloud analytic serice error.
vehicleAnalysisModule Error	0x40001180	Vehicle pictures analytic module of cloud analytic serice error.
videoStructuralAnalysis ModuleError	0x40001181	Video structuring module of cloud analytic serice error.
postprocessingModule Error	0x40001182	Post-processing module of cloud analytic serice error.
frequentlyAppearedPe rsonAlarmIsAlreadyCo nfiguredForListLibrary	0x40001183	High frequency alarm is already armed for blacklist library.
creatingListLibraryFaile d	0x40001184	Creating list library failed.
invalidIdentiryKeyOfLis tLibrary	0x40001185	Invalid identity key of list library.
noMoreDevicesCanBe Armed	0x40001186	No more camera can be added.
settingAlgorithmTypeF orDeviceFailed	0x40001187	Allocating task resource failed.
gettingHighFrequencyP ersonDetectionAlarmIn formationFailed	0x40001188	Setting high frequency alarm failed.
invalidSearchConfition	0x40001189	Invalid result.
theTaskIsNotComplete d	0x4000118B	The task is not completed.
resourceOverRemainLi mit	0x4000118C	No more resource can be pre-allocated.

Sub Status Code	Error Code	Description
frequentlyAppearedPersonAlarmIsAlreadyConfiguredForTheCameraDisarmFirstAndTryAgain	0x4000118D	The high frequency alarm of this camera is configured. Delete the arming information and try again.
switchtimedifflesslimit	0x4000123b	Time difference between power on and off should be less than 10 minutes.
associatedFaceLibNumOverLimit	0x40001279	Maximum number of linked face picture libraries reached.
noMorePeopleNumChangeRulesAdded	0x4000128A	Maximum number of people number changing rules reached.
noMoreViolentMotionRulesAdded	0x4000128D	Maximum number of violent motion rules reached.
noMoreLeavePositionRulesAdded	0x4000128E	Maximum number of leaving position rules reached.
SMRDiskNotSupportRaid	0x40001291	SMR disk does not support RAID.
OnlySupportHikAndCustomProtocol	0x400012A3	IPv6 camera can only be added via Device Network SDK or custom protocols.
vehicleEnginesNoResource	0x400012A6	Insufficient vehicle engine resources.
noMoreRunningRulesAdded	0x400012A9	Maximum number of running rules reached.
noMoreGroupRulesAdded	0x400012AA	Maximum number of people gathering rules reached.
noMoreFailDownRulesAdded	0x400012AB	Maximum number of people falling down rules reached.
noMorePlayCellphoneRulesAdded	0x400012AC	Maximum number of playing cellphone rules reached.
ruleEventTypeDuplicate	0x400012C8	Event type duplicated.
noMoreRetentionRulesAdded	0x400015AD	Maximum number of people retention rules reached.

Sub Status Code	Error Code	Description
noMoreSleepOnDutyRulesAdded	0x400015AE	Maximum number of sleeping on duty rules reached.
polygonNotAllowCrossing	0x400015C2	Polygons are not allowed to cross.
AITargetBPCaptureFail	0x400019C5	Capturing reference picture for AI target comparison failed.
AITargetBPToDSPFail	0x400019C6	Sending reference picture to DSP for AI target comparison failed.
AITargetBPDuplicateName	0x400019C7	Duplicated name of reference picture for AI target comparison.
audioFileNameWrong	0x400019D0	Incorrect audio file name.
audioFileImportFail	0x400019D1	Importing audio file failed.
alreadyRunning	0x40002026	The application program is running.
notRunning	0x40002027	The application program is stopped.
packNotFound	0x40002028	The software packet does not exist.
alreadyExist	0x40002029	The application program already exists.
noMemory	0x4000202A	Insufficient memory.
invalLicense	0x4000202B	Invalid License.
noClientCertificate	0x40002036	The client certificate is not installed.
noCACertificate	0x40002037	The CA certificate is not installed.
authenticationFailed	0x40002038	Authenticating certificate failed. Check the certificate.
clientCertificateExpired	0x40002039	The client certificate is expired.
clientCertificateRevocation	0x4000203A	The client certificate is revoked.
CACertificateExpired	0x4000203B	The CA certificate is expired.
CACertificateRevocation	0x4000203C	The CA certificate is revoked.
connectFail	0x4000203D	Connection failed.
loginNumExceedLimit	0x4000203F	No more user can log in.

Sub Status Code	Error Code	Description
HDMIResolutionIllegal	0x40002040	The HDMI video resolution cannot be larger than that of main and sub stream.
hdFormatFail	0x40002049	Formatting HDD failed.
formattingFailed	0x40002056	Formatting HDD failed.
encryptedFormattingFailed	0x40002057	Formatting encrypted HDD failed.
wrongPassword	0x40002058	Verifying password of SD card failed. Incorrect password.
audioIsPlayingPleaseWait	0x40002067	Audio is playing. Please wait.
twoWayAudioInProgressPleaseWait	0x40002068	Two-way audio in progress. Please wait.
calibrationPointNumFull	0x40002069	The maximum number of calibration points reached.
completeTheLevelCalibrationFirst	0x4000206A	The level calibration is not set.
completeTheRadarCameraCalibrationFirst	0x4000206B	The radar-camera calibration is not set.
pointsOnStraightLine	0x4000209C	Calibrating failed. The calibration points cannot be one the same line.
TValueLessThanOrEqualZero	0x4000209D	Calibration failed. The T value of the calibration points should be larger than 0.
HBDLibNumOverLimit	0x40002092	The number of human body picture libraries reaches the upper limit
theShieldRegionError	0x40002093	Saving failed. The shielded area should be the ground area where the shielded object is located.
theDetectionAreaError	0x40002094	Saving failed. The detection area should only cover the ground area.
invalidLaneLine	0x40002096	Saving failed. Invalid lane line.
enableITSFunctionOfThisChannelFirst	0x400020A2	Enable ITS function of this channel first.
noCloudStorageServer	0x400020C5	No cloud storage server

Sub Status Code	Error Code	Description
NotSupportWithVideo Task	0x400020F3	This function is not supported.
incorrectConsolePassword	0x40002106	Saving failed. Incorrect console command.
noDetectionArea	0x400050df	No detection area
armingFailed	0x40008000	Arming failed.
disarmingFailed	0x40008001	Disarming failed.
clearAlarmFailed	0x40008002	Clearing alarm failed.
bypassFailed	0x40008003	Bypass failed.
bypassRecoverFailed	0x40008004	Bypass recovery failed.
outputsOpenFailed	0x40008005	Opening relay failed.
outputsCloseFailed	0x40008006	Closing relay failed.
registerTimeOut	0x40008007	Registering timed out.
registerFailed	0x40008008	Registering failed.
addedByOtherHost	0x40008009	The peripheral is already added by other security control panel.
alreadyAdded	0x4000800A	The peripheral is already added.
armedStatus	0x4000800B	The partition is armed.
bypassStatus	0x4000800C	Bypassed.
zoneNotSupport	0x4000800D	This operation is not supported by the zone.
zoneFault	0x4000800E	The zone is in fault status.
pwdConflict	0x4000800F	Password conflicted.
audioTestEntryFailed	0x40008010	Enabling audio test mode failed.
audioTestRecoveryFailed	0x40008011	Disabling audio test mode failed.
addCardMode	0x40008012	Adding card mode.
searchMode	0x40008013	Search mode.
addRemoterMode	0x40008014	Adding keyfob mode.
registerMode	0x40008015	Registration mode.
exDevNotExist	0x40008016	The peripheral does not exist.

Sub Status Code	Error Code	Description
theNumberOfExDevLimited	0x40008017	No peripheral can be added.
sirenConfigFailed	0x40008018	Setting siren failed.
chanCannotRepeatedBinded	0x40008019	This channel is already linked by the zone.
inProgramMode	0x4000801B	The keypad is in programming mode.
inPaceTest	0x4000801C	In pacing mode.
arming	0x4000801D	Arming.
masterSlaveIsEnable	0x4000802c	The master-slave relationship has taken effect, the slave radar does not support this operation.
forceTrackNotEnabled	0x4000802d	Mandatory tracking is disabled.
isNotSupportZoneConfigByLocalArea	0x4000802e	This area does not support the zone type.
alarmLineCross	0x4000802f	Trigger lines are overlapped.
zoneDrawingOutOfRange	0x40008030	The drawn zone is out of detection range.
alarmLineDrawingOutOfRange	0x40008031	The drawn alarm trigger line is out of detection range.
hasTargetInWarningArea	0x40008032	The warning zone already contains targets. Whether to enable mandatory arming?
radarMoudleConnectFail	0x40008033	Radar module communication failed.
importCfgFilePasswordErr	0x40008034	Incorrect password for importing configuration files.
overAudioFileNumLimit	0x40008038	The number of audio files exceeds the limit.
audioFileNameIsLong	0x40008039	The audio file name is too long.
audioFormatIsWrong	0x4000803a	The audio file format is invalid.
audioFileIsLarge	0x4000803b	The size of the audio file exceeds the limit.
pircamCapTimeOut	0x4000803c	Capturing of pircam timed out.
pircamCapFail	0x4000803d	Capturing of pircam failed.
pircamIsCaping	0x4000803e	The pircam is capturing.

Sub Status Code	Error Code	Description
audioFileHasExisted	0x4000803f	The audio file already exists.
subscribeTypeErr	0x4000a016	This metadata type is not supported to be subscribed.
startAppFail	/	Starting running application program failed.
yuvconflict	/	The raw video stream conflicted.
overMaxAppNum	/	No more application program can be uploaded.
noFlash	/	Insufficient flash.
noFlash	/	The platform mismatches.

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Sub Status Code	Error Code	Description
badXmlFormat	0x50000001	Invalid XML format.

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Sub Status Code	Error Code	Description
badParameters	0x60000001	Invalid parameter.
badHostAddress	0x60000002	Invalid host IP address.
badXmlContent	0x60000003	Invalid XML content.
badIPv4Address	0x60000004	Invalid IPv4 address.
badIPv6Address	0x60000005	Invalid IPv6 address.
conflictIPv4Address	0x60000006	IPv4 address conflicted.
conflictIPv6Address	0x60000007	IPv6 address conflicted.
badDomainName	0x60000008	Invalid domain name.
connectSreverFail	0x60000009	Connecting to server failed.
conflictDomainName	0x6000000A	Domain name conflicted.
badPort	0x6000000B	Port number conflicted.
portError	0x6000000C	Port error.
exportErrorData	0x6000000D	Importing data failed.
badNetMask	0x6000000E	Invalid sub-net mask.
badVersion	0x6000000F	Version mismatches.

Sub Status Code	Error Code	Description
badDevType	0x60000010	Device type mismatches.
badLanguage	0x60000011	Language mismatches.
incorrentUserNameOrPassword	0x600000012	Incorrect user name or password.
invalidStoragePoolOfCloudServer	0x600000013	Invalid storage pool. The storage pool is not configured or incorrect ID.
noFreeSpaceOfStoragePool	0x600000014	Storage pool is full.
riskPassword	0x600000015	Risky password.
UnSupportCapture	0x600000016	Capturing in 4096*2160 or 3072*2048 resolution is not supported when H.264+ is enabled.
userPwdLenUnder8	0x60000023	At least two kinds of characters, including digits, letters, and symbols, should be contained in the password.
userPwdNameSame	0x60000025	Duplicated password.
userPwdNameMirror	0x60000026	The password cannot be the reverse order of user name.
beyondARGSRangeLimit	0x60000027	The parameter value is out of limit.
DetectionLineOutofDetectionRegion	0x60000085	The rule line is out of region.
DetectionRegionError	0x60000086	Rule region error. Make sure the rule region is convex polygon.
DetectionRegionOutOfCountingRegion	0x60000087	The rule region must be marked as red frame.
PedalAreaError	0x60000088	The pedal area must be in the rule region.
DetectionAreaABError	0x60000089	The detection region A and B must be in the a rule frame.

Sub Status Code	Error Code	Description
ABRegionCannotIntersect	0x6000008a	Region A and B cannot be overlapped.
customHBPIDError	0x6000008b	Incorrect ID of custom human body picture library
customHBPIDRepeat	0x6000008c	Duplicated ID of custom human body picture library
dataVersionsInHBDLibMismatches	0x6000008d	Database versions mismatches of human body picture library
invalidHBPID	0x6000008e	Invalid human body picture PID
invalidHBDID	0x6000008f	Invalid ID of human body picture library
humanLibraryError	0x60000090	Error of human body picture library
humanLibraryNumError	0x60000091	No more human body picture library can be added
humanImagesNumError	0x60000092	No more human body picture can be added
noHumanInThePicture	0x60000093	Modeling failed, no human body in the picture
analysisEnginesNoResourceError	0x60001000	No analysis engine.
analysisEnginesUsageExcced	0x60001001	The engine usage is overloaded.
PicAnalysisNoResourceError	0x60001002	No analysis engine provided for picture secondary recognition.
analysisEnginesLoadingError	0x60001003	Initializing analysis engine.
analysisEnginesAbnormaError	0x60001004	Analysis engine exception.
analysisEnginesFacelibImporting	0x60001005	Importing pictures to face picture library. Failed to edit analysis engine parameters.
analysisEnginesAssociatedChannel	0x60001006	The analysis engine is linked to channel.

Sub Status Code	Error Code	Description
smdEncodingNoResource	0x60001007	Insufficient motion detection encoding resources.
smdDecodingNoResource	0x60001008	Insufficient motion detection decoding resources.
diskError	0x60001009	HDD error.
diskFull	0x6000100a	HDD full.
facelibDataProcessing	0x6000100b	Handling face picture library data.
capturePackageFailed	0x6000100c	Capturing packet failed.
capturePackageProcessing	0x6000100d	Capturing packet.
noSupportWithPlaybackAbstract	0x6000100e	This function is not supported. Playback by video synopsis is enabled.
insufficientNetworkBandwidth	0x6000100f	Insufficient network bandwidth.
tapeLibNeedStopArchive	0x60001010	Stop the filing operation of tape library first.
identityKeyError	0x60001011	Incorrect interaction command.
identityKeyMissing	0x60001012	The interaction command is lost.
noSupportWithPersonDensityDetect	0x60001013	This function is not supported. The people density detection is enabled.
ipcResolutionOverflow	0x60001014	The configured resolution of network camera is invalid.
ipcBitrateOverflow	0x60001015	The configured bit rate of network camera is invalid.
tooGreatTimeDifference	0x60001016	Too large time difference between device and server.
noSupportWithPlayback	0x60001017	This function is not supported. Playback is enabled.
channelNoSupportWithSMD	0x60001018	This function is not supported. Motion detection is enabled.

Sub Status Code	Error Code	Description
channelNoSupportWithFD	0x60001019	This function is not supported. Face capture is enabled.
illegalPhoneNumber	0x6000101a	Invalid phone number.
illegalCertificateNumber	0x6000101b	Invalid certificate No.
linkedCameraOutLimit	0x6000101c	Connecting camera timed out.
achieveMaxChannelLimit	0x6000101e	No more channels are allowed.
humanMisInfoFilterEnabledChanNumError	0x6000101f	No more channels are allowed to enable preventing false alarm.
humanEnginesNoResource	0x60001020	Insufficient human body analysis engine resources.
taskNumberOverflow	0x60001021	No more tasks can be added.
collisionTimeOverflow	0x60001022	No more comparison duration can be configured.
invalidTaskID	0x60001023	Invalid task ID.
eventNotSupport	0x60001024	Event subscription is not supported.
invalidEZVIZSecretKey	0x60001034	Invalid verification code for Hik-Connect.
needDoubleVerification	0x60001042	Double verification required
noDoubleVerificationUser	0x60001043	No double verification user
timeSpanNumOverLimit	0x60001044	Max. number of time buckets reached
channelNumOverLimit	0x60001045	Max. number of channels reached
noSearchIDResource	0x60001046	Insufficient searchID resources
noSupportDeleteStrangerLib	0x60001051	Deleting stranger library is not supported
noSupportCreateStrangerLib	0x60001052	Creating stranger library is not supported
behaviorAnalysisRuleInfoError	0x60001053	Behavior analysis rule parameters error.

Sub Status Code	Error Code	Description
safetyHelmetParamError	0x60001054	Hard hat parameters error.
OneChannelOnlyCanBindOneEngine	0x60001077	No more engines can be bound.
engineTypeMismatch	0x60001079	Engine type mismatched.
badUpgradePackage	0x6000107A	Invalid upgrade package.
AudioFileNameDuplicate	0x60001135	Duplicated audio file name.
CurrentAudioFileAIRuleInUseAlreadyDelete	0x60001136	The AI rule linkage related to current audio file has been deleted.
TransitionUseEmmc	0x60002000	Starting device failed. The EMMC is overused.
AdaptiveStreamNotEnabled	0x60002001	The stream self-adaptive function is not enabled.
AdaptiveStreamAndVariableBitrateEnabled	0x60002002	Stream self-adptive and variable bitrate function cannot be enabled at the same time.
noSafetyHelmetRegion	0x60002023	The hard hat detection area is not configured (if users save their settings without configuring the arming area, they should be prompted to configure one).
unclosedSafetyHelmet	0x60002024	The hard hat detection is enabled (If users save their settings after deleting the arming area, they should be prompted to disable hard hat detection first and then delete the arming area).
width/heightRatioOfPictureError	0x6000202C	The width/height ratio of the uploaded picture should be in the range from 1:2 to 2:1.
PTZNotInitialized	0x6000202E	PTZ is not initialized.
PTZSelfChecking	0x6000202F	PTZ is self-checking.
PTZLocked	0x60002030	PTZ is locked.

Sub Status Code	Error Code	Description
advancedParametersError	0x60002031	Auto-switch interval in advanced parameters cannot be shorter than parking tolerance for illegal parking detection in speed dome rule settings.
resolutionError	0x60005003	Invalid resolution
deployExceedMax	0x60006018	The arming connections exceed the maximum number.
detectorTypeMismatch	0x60008000	The detector type mismatched.
nameExist	0x60008001	The name already exists.
uploadImageSizeError	0x60008016	The size of the uploaded picture is larger than 5 MB.
laneAndRegionOverlap	/	The lanes are overlapped.
unitConfigurationNotInEffect	/	Invalid unit parameter.
ruleAndShieldingMaskConflict	/	The line-rule region overlaps with the shielded area.
wholeRuleInShieldingMask	/	There are complete temperature measurement rules in the shielded area.
LogDiskNotSetReadOnlyInGroupMode	0x60001100	The log HDD in the HDD group cannot be set to read-only.
LogDiskNotSetReDundancyInGroupMode	0x60001101	The log HDD in the HDD group cannot be set to redundancy.

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SubStatusCode	Error Code	Description
rebootRequired	0x70000001	Reboot to take effect.