Device Network SDK (People Counting)

Developer Guide

Legal Information

Contents

Chapter 1 Overview

his manual provides the integration methods and processes based on Device Network SDK (hereafter referred to as "HCNetSDK") for people counting applications.

1.1 Introduction

People counting function provides the statistics of line crossing persons or objects in a specified time period. And there are two statistics type, i.e., real-time statistics and periodic statistics.

Real-Time Statistics

Real-time statistics (starts calculating after clearing caused by device reboot, manual clearing or auto clearing at zero time point of each day) will be uploaded when the count changed. If the count changed frequently, this statistics will update per second.

Periodic Statistics

Increased number in the configured statistics period. The update frequency is the configured statistics period (the default period is 15 minutes, shortest period is 1 minute, and longest period is 60 minutes).

1.2 Update History

Summary of Changes in Version 6.1.0.10_June, 2019

1. Extended people counting capability message ***XML_CountingCap*** (related API: ***NET_DVR_STDXMLConfig*** ; related URL: ***/ISAPI/System/Video/inputs/channels/<ID>/counting/capabilities***):
   added 9 nodes, i.e., **<isSupportRegionsDirection>** (whether supports setting counting direction), **<isSupportReverseAlarm>** (whether supports setting reverse entering alarm), **<ChildFilter>** (counting children), **<MisinfoFilter>** (false alarm filtering), **<isSupportParameterExport>** (whether supports one-touch exporting people counting parameters), **<detectionMode>** (detection mode), **<TrajectoryCountFilter>** (pattern counting filtering), **<MultiRegions>** (number of counting regions), and **<maintenanceModeEnabled>** (whether to enable maintenance mode);
   added a sub node **<reportFormat>** (email report format) to the node **<EmailReport>**;
   deleted three nodes, i.e., **<isSupportMultiRegions>**, **<isSupportEnterExitThreshold>**, and **<isSupportPeopleCountThreshold>**.
2. Extended people counting parameter message ***XML_Counting*** (related API: ***NET_DVR_STDXMLConfig*** ; related URL: ***/ISAPI/System/Video/inputs/channels/<ID>/counting***):

added six nodes, i.e., <**ChildFilter**> (counting children), <**MisinfoFilter**> (false alarm filtering), <**detectionMode**> (detection mode), <**TrajectoryCountFilter**> (pattern counting filtering), <**RegionsDirectionList**> (parameter list of counting direction), and <**maintenanceModeEnabled**> (whether to enable maintenance mode);

added the sub nodes <**reportFormat**> (email report format) and <**child**> (whether to enable OSD for counting children) to the nodes <**EmailReport**> and <**OverlayConfiguration**>, respectively;

deleted a sub node <**regionID**> from the node <**OverlayConfiguration**>.

3. Extended report capability message of people counting statistics **_XML_CountingSearchCap_** (related API: **_NET_DVR_STDXMLConfig_** ; related URL: **_/ISAPI/System/Video/inputs/channels/ <ID>/counting/search/capabilities_**):

   added a statistics type "all" (number of entered and exited people) to the node <**statisticsType**>;

   added two nodes <**isSupportchild**> (whether supports counting children only) and <**MinTimeInterval**> (minimum time interval).

4. Extended search condition structure of people counting statistics **_NET_DVR_PDC_QUERY_COND_** (related API: **_NET_DVR_StartRemoteConfig_** ; command: 5089-NET_DVR_GET_PDC_RESULT): added three members: **byChild** (whether supports counting children only), **byMinTimeInterval** (minimum time interval), and **byStatisticType** (counting type) via three reserved bytes.

5. Extended alarm information structure of people counting **_NET_DVR_PDC_ALRAM_INFO_** : added two members: **dwChildLeaveNum** (number of exited children) and **dwChildEnterNum** (number of entered children) via 8 reserved bytes.

6. Added function of **_Configure Reverse Entering Alarm_** .

7. Added function of **_Enable Counting Children_** .

8. Extended arming schedule message **_XML_Schedule_** and alarm linkage parameter message **_XML_EventTrigger_** (related API: **_NET_DVR_STDXMLConfig_** ; related URLs: **_/ISAPI/Event/ schedules/reverseEntrance/<ID>_** and **_/ISAPI/Event/triggers/<eventType>-<channelID>_**): added an alarm or event type "reverseEntrance" to the node <**eventType**>.

Summary of Changes in Version 6.0.2.30_Mar., 2019

1. Extended the software and hardware capabilities **_XML_BasicCapability_** :
   added two sub nodes <**PDC**> (whether supports people counting function) and <**isSupportMultiChannelSearch**> (whether supports people counting of multiple channels) to <**SoftwareCapability**>.

2. Extended the VCA capability **_XML_VcaChanAbility_** :
   added one sub node <**isSupportMultiChannelSearch**> (whether supports people counting of multiple channels) to node <**PDC**>.

3. Extended the PDC data query structure **_NET_DVR_PDC_QUERY_COND_** (related API: **_NET_DVR_StartRemoteConfig_**):
   added eight parameters with 16 reserved bytes: **byMultiChannelSearch** (enable multiple channels search), **byISO8601** (whether adopts ISO8601 format), **cStartTimeDifferenceH** (start time offset (hours) from UTC), **cStartTimeDifferenceM** (start time offset (minutes) from UTC), **cStopTimeDifferenceH** (end time offset (hours) from UTC), **cStopTimeDifferenceM** (end time

offset (minutes) from UTC), **dwSearchChannelNum** (number of searched channels), **pSearchChannel** (searched channel No.).

4. Extended the PDC query results structure ***NET_DVR_PDC_RESULT*** (related API: ***NET_DVR_GetNextRemoteConfig***):
added five parameters: **byISO8601** (whether adopts ISO8601 format), **cStartTimeDifferenceH** (start time offset (hours) from UTC), **cStartTimeDifferenceM** (start time offset (minutes) from UTC), **cStopTimeDifferenceH** (end time offset (hours) from UTC), **cStopTimeDifferenceM** (end time offset (minutes) from UTC).

5. Extended storage capability ***XML_RacmCap*** (related API: ***NET_DVR_STDXMLConfig*** with URL: GET ***/ISAPI/ContentMgmt/capabilities***):
added a node <**isSupportCountingSearchByUTC**> (whether supports searching people counting results by UTC time).

Summary of Changes in Version 5.2.3.5_Dec., 2017

New document.

Chapter 2 Typical Applications

2.1 Enable People Counting

During the people counting, the number of entered, exited, or passed people (including adult and child) can be counted.

Before You Start

- Make sure you have called ***NET_DVR_Init*** to initialize the development environment.
- Make sure you have called ***NET_DVR_Login_V40*** to log in to the device.

Steps
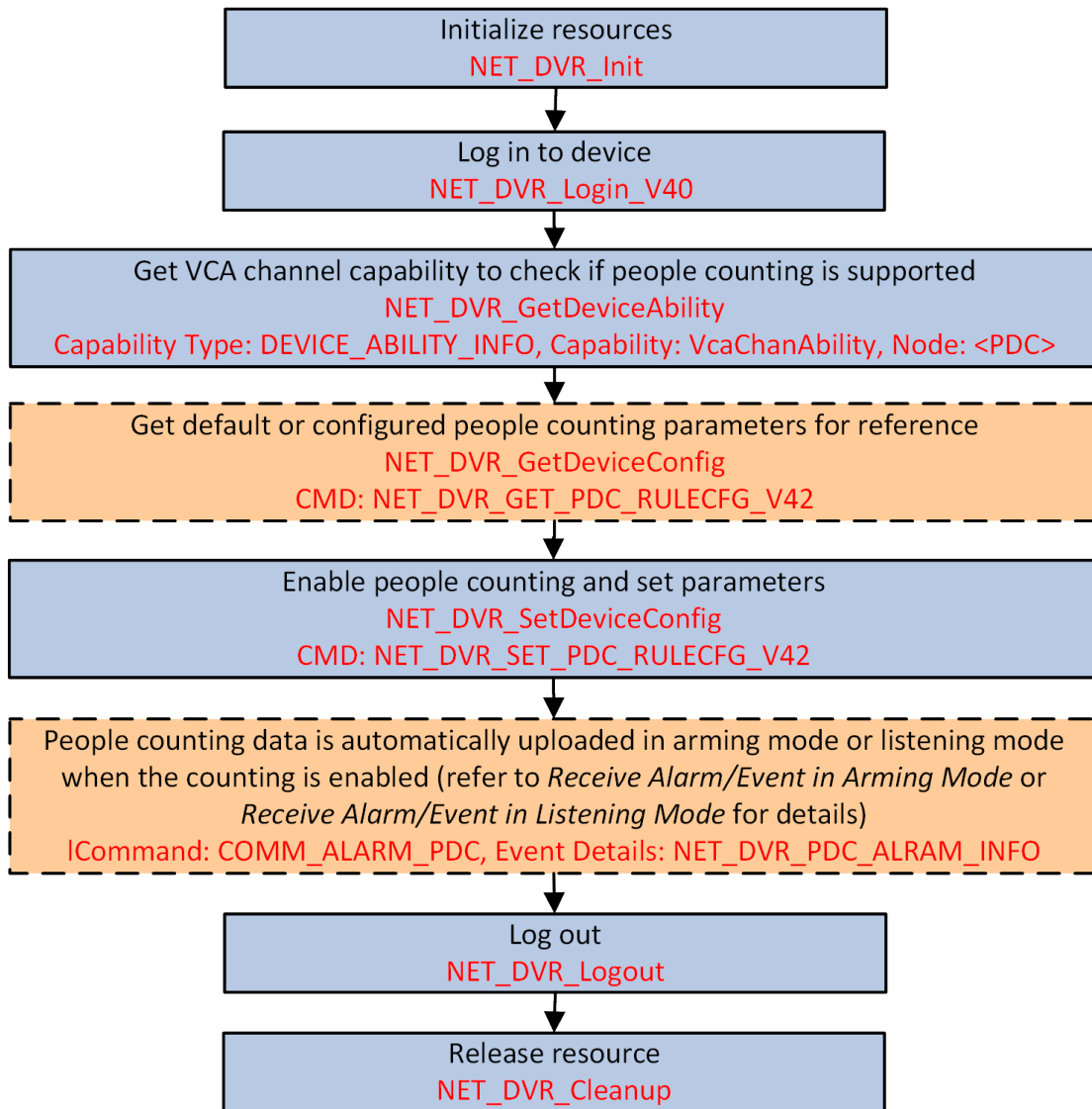
Figure 2-1 Programming Flow of Enabling People Counting

1. Call **_NET_DVR_GetDeviceAbility_** , set **dwAbilityType** to "DEVICE_ABILITY_INFO" (macro definition value: 0x011), and set **pInBuf** to the message **_XML_Desc_VcaChanAbility_** for getting VCA channel capability to check if people counting is supported by this device.

   The VCA channel capability is returned in the message **_XML_VcaChanAbility_** by **pOutBuf**.

   If supports, the node **<PDC>** will be returned in the capability message, and then you can continue to perform the following steps.

   Otherwise, people counting is not supported by device, please end this task.

2. **Optional:** Call **_NET_DVR_GetDeviceConfig_** with NET_DVR_GET_PDC_RULECFG_V42 (command No.: 3405) and specify **lpInBuffer** as **_NET_DVR_PDC_RULE_COND_** for getting people counting

parameters, including detection region (line), arming schedule, linkage action, and so on, for reference.

The people counting parameters are returned in the structure ***NET_DVR_PDC_RULE_CFG_V42*** by **lpOutBuffer**.

3. Call ***NET_DVR_SetDeviceConfig*** with NET_DVR_SET_PDC_RULECFG_V42 (command No.: 3406), specify **lpInBuffer** as ***NET_DVR_PDC_RULE_COND*** , and set **lpInParamBuffer** to ***NET_DVR_PDC_RULE_CFG_V42*** for enabling people counting and set parameters.

⚠**Note**

- To receive alarm in platform, the linkage action must be set to "center" (upload to center).
- Setting people counting parameters is also available by logging in to device via web page.

4. **Optional:** Set **lCommand** of alarm/event callback function ***MSGCallBack*** to "COMM_ALARM_PDC" (command No.: 0x1103) for automatically uploading people counting data by the structure ***NET_DVR_PDC_ALRAM_INFO*** in arming mode (see ***Receive Alarm/Event in Arming Mode***) or listening mode (see ***Receive Alarm/Event in Listening Mode***) when people counting is enabled.

5. **Optional:** Refer to ***Search Data and Report*** for searching people counting data and get report.

Example

Sample Code for Enabling People Counting

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;

//Time macro definition
#define GET_YEAR(_time_)     (((_time_)>>26) + 2000)
#define GET_MONTH(_time_)    (((_time_)>>22) & 15)
#define GET_DAY(_time_)      (((_time_)>>17) & 31)
#define GET_HOUR(_time_)     (((_time_)>>12) & 31)
#define GET_MINUTE(_time_)   (((_time_)>>6)  & 63)
#define GET_SECOND(_time_)   (((_time_)>>0)  & 63)

BOOL CALLBACK MessageCallback(LONG lCommand, NET_DVR_ALARMER *pAlarmer, char *pAlarmInfo, DWORD
dwBufLen, void* pUser)
{
   //The following code is for reference only. Actually, directly processing data and saving file in this callback function is
not suggested.
   //For example, process the data in the message response API in message mode (PostMessage).

   switch(lCommand)
   {
     case COMM_ALARM_PDC: //People counting alarm information.
     {
        NET_DVR_PDC_ALRAM_INFO struPDCAlarmInfo = {0};
        memcpy(&struPDCAlarmInfo, pAlarmInfo, sizeof(struPDCAlarmInfo));
        if (struPDCAlarmInfo.byMode == 0) //0-Real-time statistics, real-time quantity is calculated after the latest
```

clearing (including device reboot, manual clearing or auto clearing at 00:00 of every day).

```
        {
            NET_DVR_TIME  struAbsTime = {0};
            struAbsTime.dwYear = GET_YEAR(struPDCAlarmInfo.uStatModeParam.struStatFrame.dwAbsTime);
            struAbsTime.dwMonth = GET_MONTH(struPDCAlarmInfo.uStatModeParam.struStatFrame.dwAbsTime);
            struAbsTime.dwDay = GET_DAY(struPDCAlarmInfo.uStatModeParam.struStatFrame.dwAbsTime);
            struAbsTime.dwHour = GET_HOUR(struPDCAlarmInfo.uStatModeParam.struStatFrame.dwAbsTime);
            struAbsTime.dwMinute = GET_MINUTE(struPDCAlarmInfo.uStatModeParam.struStatFrame.dwAbsTime);
            struAbsTime.dwSecond = GET_SECOND(struPDCAlarmInfo.uStatModeParam.struStatFrame.dwAbsTime);

            //Device IP address, port, channel, people exited, people entered, VCA alarm or not, absolute time
            printf("DevIP:[%s]Port[%d]Channel[%d]single frame:Channel[%d]LeaveNum[%d]EnterNum[%d]Smart[%d]\
            AbsTime[%4.4d%2.2d%2.2d%2.2d%2.2d%2.2d]\n", struPDCAlarmInfo.struDevInfo.struDevIP.sIpV4, \
            struPDCAlarmInfo.struDevInfo.wPort, struPDCAlarmInfo.struDevInfo.byChannel, \
            struPDCAlarmInfo.byChannel, struPDCAlarmInfo.dwLeaveNum, struPDCAlarmInfo.dwEnterNum,\
            struPDCAlarmInfo.bySmart, struAbsTime.dwYear, struAbsTime.dwMonth, struAbsTime.dwDay,\
            struAbsTime.dwHour, struAbsTime.dwMinute, struAbsTime.dwSecond);
        }
        if (struPDCAlarmInfo.byMode == 1) //1-Periodic statistics, increased quantity within specific statistics period,
update once per specified statistics period (default: 15 minutes, minimum: 1 minute and maximum: 60 minutes)
        {
            NET_DVR_TIME  struStartTime = {0};
            NET_DVR_TIME  struEndTime = {0};
            struStartTime = struPDCAlarmInfo.uStatModeParam.struStatTime.tmStart;
            struEndTime = struPDCAlarmInfo.uStatModeParam.struStatTime.tmEnd;


            //Device IP address, port, channel, people exited, people entered, people passed, VCA alarm or not, start
time, end time
            printf("DevIP:[%s]Port[%d]Channel[%d]single
frame:Channel[%d]LeaveNum[%d]EnterNum[%d]PassingNum[%d]Smart[%d]\
            StartTime[%4.4d%2.2d%2.2d%2.2d%2.2d%2.2d]EndTime[%4.4d%2.2d%2.2d%2.2d%2.2d%2.2d]\n",\
            struPDCAlarmInfo.struDevInfo.struDevIP.sIpV4, struPDCAlarmInfo.struDevInfo.wPort,\
            struPDCAlarmInfo.struDevInfo.byChannel, struPDCAlarmInfo.byChannel, struPDCAlarmInfo.dwLeaveNum,\
            struPDCAlarmInfo.dwEnterNum, struPDCAlarmInfo.dwPassingNum, struPDCAlarmInfo.bySmart,
struStartTime.dwYear,\
            struStartTime.dwMonth, struStartTime.dwDay, struStartTime.dwHour, struStartTime.dwMinute,\
            struStartTime.dwSecond, struEndTime.dwYear, struEndTime.dwMonth, struEndTime.dwDay,
struEndTime.dwHour, \
            struEndTime.dwMinute, struEndTime.dwSecond);
        }
        //Process other information
        break;
    }

    default:
    {
        printf("Other alarms, alarm type: 0x%x\n", lCommand);
        break;
    }
  }
```

```
    return TRUE;
}

void main() {
    //-------------------------------------
    // Initialize
    NET_DVR_Init();
    //Set connected time and reconnected time
    NET_DVR_SetConnectTime(2000, 1);
    NET_DVR_SetReconnect(10000, true);

    //-------------------------------------
    // Log in to device
    LONG lUserID;

    //Login parameters, including device IP address, user name, password, and so on.
    NET_DVR_USER_LOGIN_INFO struLoginInfo = {0};
    struLoginInfo.bUseAsynLogin = 0; //Synchronous login mode
    strcpy(struLoginInfo.sDeviceAddress, "192.0.0.64"); //IP address
    struLoginInfo.wPort = 8000; //Service port
    strcpy(struLoginInfo.sUserName, "admin"); //User name
    strcpy(struLoginInfo.sPassword, "abcd1234"); //Password

    //Device information, output parameter
    NET_DVR_DEVICEINFO_V40 struDeviceInfoV40 = {0};

    lUserID = NET_DVR_Login_V40(&struLoginInfo, &struDeviceInfoV40);
    if (lUserID < 0)
    {
        printf("Login failed, error code: %d\n", NET_DVR_GetLastError());
        NET_DVR_Cleanup();
        return;
    }

    //Set alarm callback function
    NET_DVR_SetDVRMessageCallBack_V31(MessageCallback, NULL);

    //Enable arming
    LONG lHandle;
    NET_DVR_SETUPALARM_PARAM  struAlarmParam={0};
    struAlarmParam.dwSize=sizeof(struAlarmParam);
    //Setting other arming parameters is not supported.

    lHandle = NET_DVR_SetupAlarmChan_V41(lUserID, & struAlarmParam);
    if (lHandle < 0)
    {
        printf("NET_DVR_SetupAlarmChan_V41 error, %d\n", NET_DVR_GetLastError());
        NET_DVR_Logout(lUserID);
        NET_DVR_Cleanup();
        return;
    }
```

```
    Sleep(50000); //During waiting, if the device uploaded alarm information, receive and handle the alarm information
in the alarm callback function.

    //Close uploading channel to disarm.
    if (!NET_DVR_CloseAlarmChan_V30(lHandle))
    {
        printf("NET_DVR_CloseAlarmChan_V30 error, %d\n", NET_DVR_GetLastError());
        NET_DVR_Logout(lUserID);
        NET_DVR_Cleanup();
        return;
    }

    //Log out
    NET_DVR_Logout(lUserID);
    //Release SDK resource
    NET_DVR_Cleanup();
    return;
}
```

What to do next
Call **_NET_DVR_Logout_** and **_NET_DVR_Cleanup_** to log out from device and release resources.

2.2 Enable Counting Children

During people counting, the number of entered or exited children can be counted according to the height feature which differs from that of adult for more accurate statistics. The children counting results can also be shown on the people counting report.

Before You Start

- Make sure you have called **_NET_DVR_Init_** to initialize the development environment.
- Make sure you have called **_NET_DVR_Login_V40_** to log in to device.

Steps
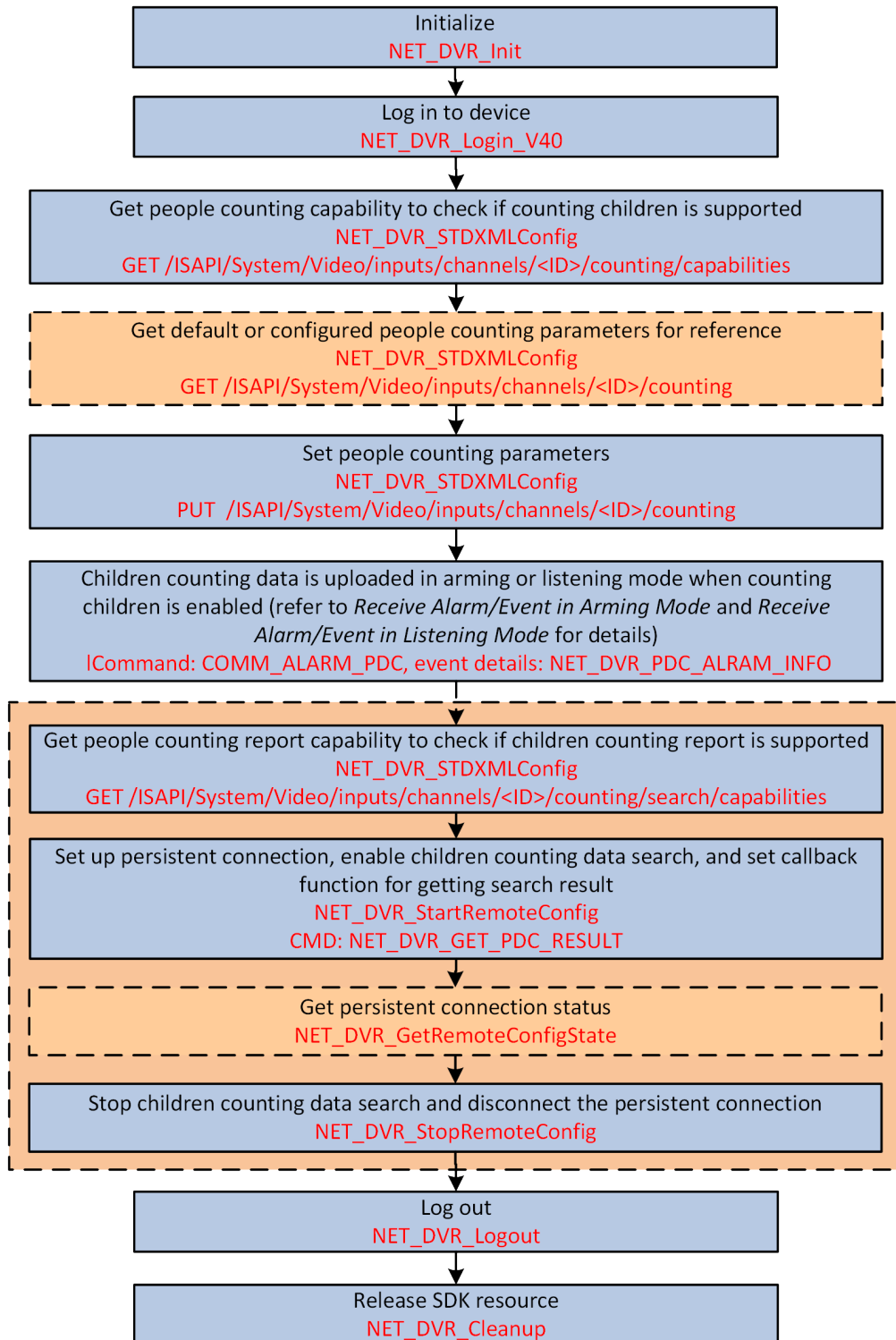
Figure 2-2 Programming Flow of Enabling Counting Children

1. Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: GET **_/ISAPI/System/Video/ inputs/channels/<ID>/counting/capabilities_** for getting people counting capability to check if counting children is supported.

   The people counting capability is returned in the message **_XML_CountingCap_** by **lpOutputParam**.

   If supports, the node **<ChildFilter>** is returned, and then you can perform the following steps; otherwise, it indicates that counting children is not supported, please end this task.

2. **Optional:** Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: GET **_/ISAPI/System/ Video/inputs/channels/<ID>/counting_** for getting default or configured people (including children) counting parameters for reference.

   The people (including children) counting parameters are returned in the message **_XML_Counting_** by **lpOutputParam**.

3. Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: PUT **_/ISAPI/System/Video/ inputs/channels/<ID>/counting_** and set **lpInputParam** to **_XML_Counting_** (set **<enabled>** of **<ChildFilter>** in message to "true") for enabling counting children.

4. Set **lCommand** of alarm/event callback function **_MSGCallBack_** to "COMM_ALARM_PDC" (command No.: 0x1103) for automatically uploading children counting data by the structure **_NET_DVR_PDC_ALRAM_INFO_** in arming mode (refer to **_Receive Alarm/Event in Arming Mode_** for details) or listening mode (refer to **_Receive Alarm/Event in Listening Mode_** for details) when counting children is enabled.

5. **Optional:** Search and get children counting report.
   1) Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: GET **_/ISAPI/System/Video/ inputs/channels/<ID>/counting/search/capabilities_** for getting people counting report capability to check if children counting report is supported.

      The people counting report capability is returned in the message **_XML_CountingSearchCap_** by **lpOutputParam**.

      If supports, the node **<isSupportChild>** is returned and its value is "true", and then you can perform the following step; otherwise, it indicates that children counting report is not supported, please end this task.

   2) Call **_NET_DVR_StartRemoteConfig_** with NET_DVR_GET_PDC_RESULT (command No.: 5089) and set **lpInBuffer** to **_NET_DVR_PDC_QUERY_COND_** for setting up persistent connection, enabling children counting data search, and setting callback function to receive search result.

      The children counting data and report are returned in the structure **_NET_DVR_PDC_RESULT_** by the configured callback function.

   3) **Optional:** Call **_NET_DVR_GetRemoteConfigState_** to get persistent connection status.
   4) Call **_NET_DVR_StopRemoteConfig_** to stop children counting data search and disconnect the persistent connection.

What to do next
Call **_NET_DVR_Logout_** and **_NET_DVR_Cleanup_** to log out from device and release the resources.

2.3 Alarm and Event Receiving

The alarm/event information from the device can be received in third-party platform or system when the alarms are triggered or event occurred. Two modes are available for receiving alarms, including arming mode and listening mode.

Arming Mode

The third-party platform connects to device automatically, when the alarm is triggered, the platform sends alarm uploading command to the device, and then the device will upload the alarm to the platform.

Listening Mode

When alarm is triggered, the device automatically uploads the alarm, and then the third-party platform receives the uploaded alarm via the configured listening host (listening address and port should be configured). This mode is applicable for multiple devices uploading alarm/event information to one third-party platform without logging in to devices, and the restart of devices will not affect the alarm/event uploading. But a device can only support the configuration of one or two listening addresses and ports.

2.3.1 Configure Reverse Entering Alarm

When a detection target enters the rule region in opposite detection direction, the reverse entering alarm is triggered. You can also set alarm linkage action and arming schedule to receive the alarm information from platform or system and control period that is able to trigger alarm as needed.

Before You Start

- Make sure you have called **_NET_DVR_Init_** to initialize the development environment.
- Make sure you have called **_NET_DVR_Login_V40_** to log in to device.

Steps

```
┌─────────────────────────────────────────────────────────┐
│                       Initialize                          │
│                      NET_DVR_Init                          │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│                    Log in to device                       │
│                   NET_DVR_Login_V40                        │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│ Get people counting capability to check if reverse        │
│          entering alarm is supported                      │
│                  NET_DVR_STDXMLConfig                      │
│ GET /ISAPI/System/Video/inputs/channels/<ID>/             │
│              counting/capabilities                        │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│ Get default or configured reverse entering alarm          │
│          parameters for reference                         │
│                  NET_DVR_STDXMLConfig                      │
│ GET /ISAPI/System/Video/inputs/channels/<ID>/             │
│         counting/reverseAlarm?format=json                 │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│          Set reverse entering alarm parameters            │
│                  NET_DVR_STDXMLConfig                      │
│ PUT /ISAPI/System/Video/inputs/channels/<ID>/             │
│         counting/reverseAlarm?format=json                 │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│      Set linkage action for reverse entering alarm        │
│                  NET_DVR_STDXMLConfig                      │
│ PUT /ISAPI/Event/triggers/<ID>, <ID> is                   │
│          "reverseEntrance-<channelID>"                    │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│    Set arming schedule for reverse entering alarm         │
│                  NET_DVR_STDXMLConfig                      │
│ PUT /ISAPI/Event/schedules/reverseEntrance/<ID>,          │
│           <ID> is "reverseEntrance-<channelID>"           │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│ Receive reverse entering alarm in arming or listening     │
│ mode when alarm is triggered                              │
│ (refer to Receive Alarm/Event in Arming Mode and Receive  │
│  Alarm/Event in Listening                                 │
│              Mode for details)                            │
│         lCommand: COMM_VCA_ALARM,                         │
│ alarm details: JSON_EventNotificationAlert_               │
│          ReverseEnteringAlarmMsg                          │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│                      Log out                              │
│                  NET_DVR_Logout                            │
└─────────────────────────────────────────────────────────┘
                            │
                            ▼
┌─────────────────────────────────────────────────────────┐
│                Release SDK resource                       │
│                  NET_DVR_Cleanup                           │
└─────────────────────────────────────────────────────────┘
```
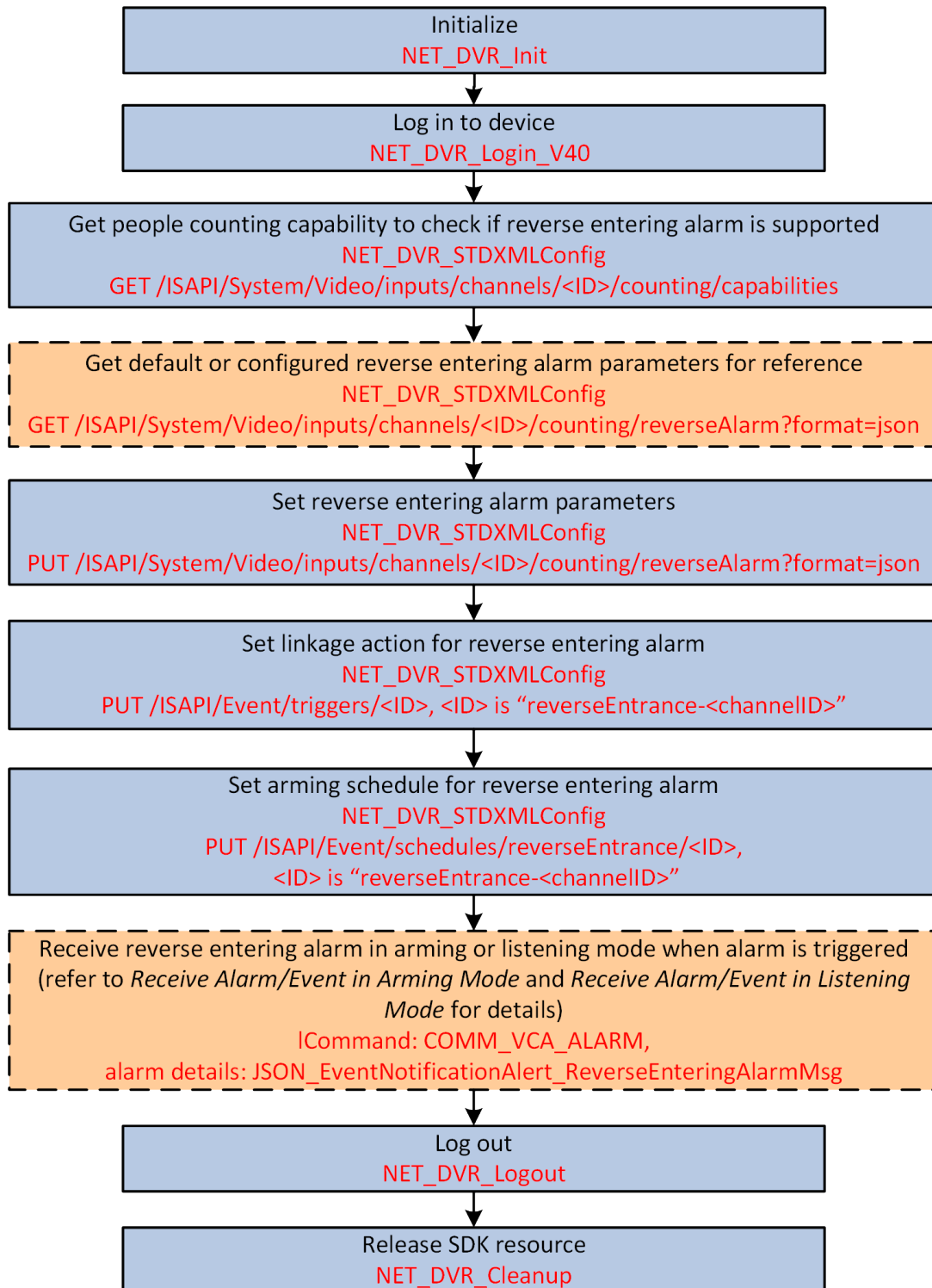
Figure 2-3 Programming Flow of Configuring Reverse Entering Alarm

1. Call **NET_DVR_STDXMLConfig** to pass through the request URL: GET **/ISAPI/System/Video/inputs/channels/<ID>/counting/capabilities** for getting people counting capability to check if reverse entering alarm is supported.

   The people counting capability is returned in the message **XML_CountingCap** by **lpOutputParam**.

   If supports, the node **<isSupportReverseAlarm>** is returned and its value is "true", and then you can perform the following steps; otherwise, it indicates that reverse entering alarm is not supported,please end this task.

2. **Optional:** Call **NET_DVR_STDXMLConfig** to pass through the request URL: GET **/ISAPI/System/Video/inputs/channels/<ID>/counting/reverseAlarm?format=json** for getting default or configured reverse entering alarm parameters for reference.

   The parameters are returned in the message **JSON_reverseAlarm** by **lpOutputParam**.

3. Call **NET_DVR_STDXMLConfig** to pass through the request URL: PUT **/ISAPI/System/Video/inputs/channels/<ID>/counting/reverseAlarm?format=json** and set **lpInputParam** to **JSON_reverseAlarm** for setting parameters of reverse entering alarm.

4. **Optional:** Call **NET_DVR_STDXMLConfig** to pass through the request URL: GET **/ISAPI/Event/triggers/<eventType>-<channelID>** (the <ID> in the URL should be set to "reverseEntrance-<channelID>") for getting default or configured linkage parameters of reverse entering alarm for reference.

   The alarm linkage parameters are returned in the message **XML_EventTrigger** by **lpOutputParam**. And the default linkage action is "center" (alarm receiving center).

5. Call **NET_DVR_STDXMLConfig** to pass through the request URL: PUT **/ISAPI/Event/triggers/<eventType>-<channelID>** (the <ID> in the URL should be set to "reverseEntrance-<channelID>") and set **lpInputParam** to **XML_EventTrigger** for setting linkage action of reverse entering alarm.

   Note

   To receive alarm in alarm receiving center, the linkage action must be set to "center".

6. **Optional:** Call **NET_DVR_STDXMLConfig** to pass through the request URL: GET **/ISAPI/Event/schedules/reverseEntrance/<ID>** (the <ID> in the URL should be set to "reverseEntrance-<channelID>") for getting default or configured arming schedule of reverse entering alarm for reference.

   The arming schedule is returned in the message **XML_Schedule** by **lpOutputParam**. And the default arming schedule is "all-day".

7. Call **NET_DVR_STDXMLConfig** to pass through the request URL: PUT **/ISAPI/Event/schedules/reverseEntrance/<ID>** (the <ID> in the URL should be set to "reverseEntrance-<channelID>") and set **lpInputParam** to **XML_Schedule** for setting arming schedule of reverse entering alarm.

8. **Optional:** Set **lCommand** of alarm/event callback function **MSGCallBack** to "COMM_VCA_ALARM" (command No.: 0x4993) for receiving reverse entering alarm in arming mode (refer to **Receive Alarm/Event in Arming Mode** for details) or listening mode (refer to **Receive Alarm/Event in Listening Mode** for details).

   The reverse entering alarm information is called back in the message **JSON_EventNotificationAlert_reverseEntrance** .

What to do next

Call **_NET_DVR_Logout_** and **_NET_DVR_Cleanup_** to log out from device and release the resources.

2.3.2 Receive Alarm/Event in Arming Mode

When the alarm is triggered or the event occurred, the secondarily developed third-party platform can automatically connect and send alarm/event uploading command to the device, and then the device uploads the alarm/event information to the platform for receiving.

Before You Start

- Make sure you have called **_NET_DVR_Init_** to initialize the development environment.
- Make sure you have called **_NET_DVR_Login_V40_** to log in to the device.
- Make sure you have configured the alarm/event parameters, refer to the typical alarm/event configurations for details.

Steps
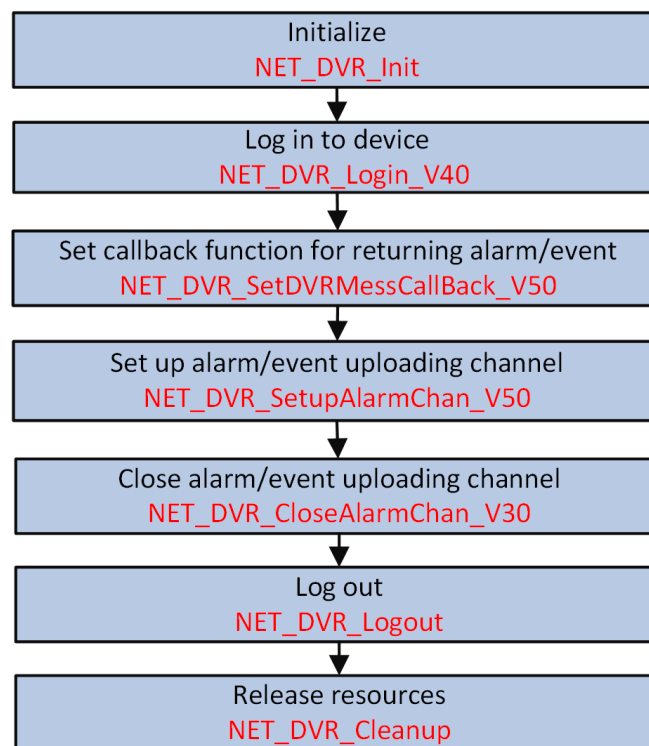
Figure 2-4 Programming Flow of Receiving Alarm/Event in Arming Mode

1. Call **_NET_DVR_SetDVRMessageCallBack_V50_** to set callback function for returning alarm/event information.

$\boxed{\mathbf{i}}$**Note**

- If the configured alarm is triggered or event occurred, the alarm/event information will be uploaded by device and returned in the callback function. You can view the alarm/event and do some processing operations.
- For the integration via device network SDK (HCNetSDK), to receive different types of alarm/event information, the parameter **lCommand** (data type to be uploaded) in the configured callback function should be different (refer to the typical alarm/event configurations). For the integration via text protocol, the **lCommand** should be set to "COMM_ISAPI_ALARM" (command No.: 0x6009) and the input parameter **pAlarmInfo** in the callback function *MSGCallBack* should be set to *NET_DVR_ALARM_ISAPI_INFO* .

---

2. Call *NET_DVR_SetupAlarmChan_V50* to set up uploading channel.
3. Call *NET_DVR_CloseAlarmChan_V30* to close uploading channel and stop receiving alarm or event information.

Example

Sample Code of Receiving Alarm or Event in Arming Mode

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;

void main() {
 //-------------------------------------
 // Initialize
 NET_DVR_Init();
 //Set connection time and reconnection time
 NET_DVR_SetConnectTime(2000, 1);
 NET_DVR_SetReconnect(10000, true);
 //-------------------------------------
 // Log in to device
 LONG lUserID;
 //Login parameters, including device IP address, user name, password, and so on.
 NET_DVR_USER_LOGIN_INFO struLoginInfo = {0};
 struLoginInfo.bUseAsynLogin = 0; //Synchronous login mode
 strcpy(struLoginInfo.sDeviceAddress, "192.0.0.64"); //Device IP address
 struLoginInfo.wPort = 8000; //Service port No.
 strcpy(struLoginInfo.sUserName, "admin"); //User name
 strcpy(struLoginInfo.sPassword, "abcd1234"); //Password
 //Device information, output parameter
 NET_DVR_DEVICEINFO_V40 struDeviceInfoV40 = {0};
 lUserID = NET_DVR_Login_V40(&struLoginInfo, &struDeviceInfoV40);
 if (lUserID < 0)
 {
 printf("Login failed, error code: %d\n", NET_DVR_GetLastError());
 NET_DVR_Cleanup();
 return;
 }
```

```
//Set alarm callback function
NET_DVR_SetDVRMessageCallBack_V50(0, MessageCallbackNo1, NULL);
NET_DVR_SetDVRMessageCallBack_V50(1, MessageCallbackNo2, NULL);

//Enable arming
NET_DVR_SETUPALARM_PARAM_V50 struSetupParamV50={0};
struSetupParamV50.dwSize=sizeof(NET_DVR_SETUPALARM_PARAM_V50);
//Alarm category to be uploaded
struSetupParamV50.byAlarmInfoType=1;
//Arming level
struSetupParamV50.byLevel=1;

char szSubscribe[1024] = {0};
//The following code is for alarm subscription (subscribe all)
memcpy(szSubscribe, "<SubscribeEvent version=\"2.0\" xmlns=\"http://www.isapi.org/ver20/XMLSchema\">\r
\n<eventMode>all</eventMode>\r\n", 1024);
LONG lHandle = -1;
if (0 == strlen(szSubscribe))
{
  //Arm
  lHandle = NET_DVR_SetupAlarmChan_V50(lUserID, &struSetupParamV50, NULL, strlen(szSubscribe));
}
else
{
 //Subscribe
 LlHandle = NET_DVR_SetupAlarmChan_V50(lUserID, &struSetupParamV50, szSubscribe, strlen(szSubscribe));
}

if (lHandle < 0)
{
 printf("NET_DVR_SetupAlarmChan_V50 error, %d\n", NET_DVR_GetLastError());
 NET_DVR_Logout(lUserID);
 NET_DVR_Cleanup();
 return;
}

Sleep(20000);
//Disarm the uploading channel
if (!NET_DVR_CloseAlarmChan_V30(lHandle))
{
  printf("NET_DVR_CloseAlarmChan_V30 error, %d\n", NET_DVR_GetLastError());
  NET_DVR_Logout(lUserID);
  NET_DVR_Cleanup();
  return;
}

//Log out
NET_DVR_Logout(lUserID);
//Release resources
NET_DVR_Cleanup();
```

```
 return;
}
```

What to do next
Call **_NET_DVR_Logout_** and **_NET_DVR_Cleanup_** to log out and release resources.

2.3.3 Receive Alarm/Event in Listening Mode

When alarm is triggered or event occurred, the device uploads the alarm/event information automatically, so you can configure the listening address and port for listening and receiving the alarm/event in the secondarily developed third-part platform.

Before You Start

- Make sure you have called **_NET_DVR_Init_** to initialize the development environment.
- Make sure you have configured the alarm/event parameters, refer to the typical alarm/event configurations for details.

Steps
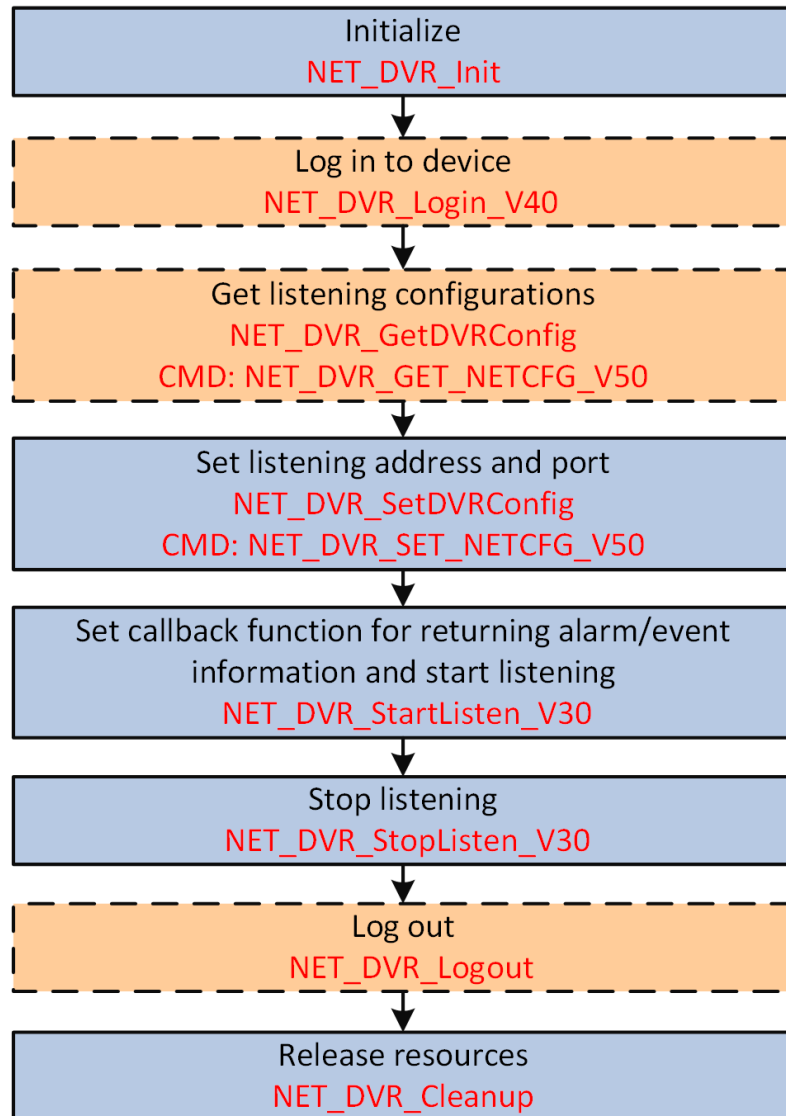
Figure 2-5 Programming Flow of Receiving Alarm/Event in Listening Mode

1. **Optional:** Call **_NET_DVR_Login_V40_** to log in to device.
2. **Optional:** Call **_NET_DVR_GetDVRConfig_** with "NET_DVR_GET_NETCFG_V50" (command No.: 1015) to get the existing listening configurations (i.e., listening address and port) for reference.

   The listening parameters are retruned in the structure **_NET_DVR_NETCFG_V50_** by the output parameter pointer **lpOutBuffer**.
3. Call **_NET_DVR_SetDVRConfig_** with "NET_DVR_SET_NETCFG_V50" (command No.: 1016) and specify the input parameter pointer **lpInBuffer** to the structure **_NET_DVR_NETCFG_V50_** for setting the listening address and port.
4. Call **_NET_DVR_StartListen_V30_** to set callback function for returning alarm/event information and start the listening.

📖**Note**

For the integration via device network SDK (HCNetSDK), to receive different types of alarm/ event information, the parameter **lCommand** (data type to be uploaded) in the configured callback function should be different (refer to the typical alarm/event configurations). For the integration via text protocol, the **lCommand** should be set to "COMM_ISAPI_ALARM" and the input parameter **pAlarmInfo** in the callback function *MSGCallBack* should be set to *NET_DVR_ALARM_ISAPI_INFO* .

The alarm/event information is automatically uploaded by the device when the configured alarm is triggered or event occurred, and the third-party platform or system gets the alarm/ event information from the configured callback function.

5. Call *NET_DVR_StopListen_V30* to stop listening and receiving alarm or event information.

Example

Sample Code of Receiving Alarm/Event in Listening Mode

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;
void main() {
 //-------------------------------------
 // Initialize
 NET_DVR_Init();
 //Set connection time and reconnection time
 NET_DVR_SetConnectTime(2000, 1);
 NET_DVR_SetReconnect(10000, true);
 //-------------------------------------
 // Log in to device
 LONG lUserID;
 NET_DVR_DEVICEINFO_V30 struDeviceInfo;
 lUserID = NET_DVR_Login_V30("172.0.0.100", 8000, "admin", "12345", &struDeviceInfo);
 if (lUserID < 0)
 {
    printf("Login error, %d\n", NET_DVR_GetLastError());
    NET_DVR_Cleanup();
    return;
 }
 //Enable listening
 LONG lHandle;
 lHandle = NET_DVR_StartListen_V30(NULL,7200, MessageCallback, NULL);
 if (lHandle < 0)
 {
   printf("NET_DVR_StartListen_V30 error, %d\n", NET_DVR_GetLastError());
   NET_DVR_Logout(lUserID);
   NET_DVR_Cleanup();
   return;
 }
 Sleep(5000);
```

```
//Disable listening
if (!NET_DVR_StopListen_V30(lHandle))
{
    printf("NET_DVR_StopListen_V30 error, %d\n", NET_DVR_GetLastError());
    NET_DVR_Logout(lUserID);
    NET_DVR_Cleanup();
    return;
}
//Log out
NET_DVR_Logout(lUserID);
//Release SDK resource
NET_DVR_Cleanup();
return;
}
```

What to do next
Call **_NET_DVR_Logout_** (if logged in) and **_NET_DVR_Cleanup_** to log out and release resources.

2.4 Search Data and Report

or devices with local storage, the people counting data will be stored locally after enabling people counting function. You can set condition to search the stored data and get the different types of reports according to the configured condition.

Before You Start

- Make sure you have called **_NET_DVR_Init_** to initialize the integration environment.
- Make sure you have called **_NET_DVR_Login_V40_** to log in to the device.

Steps
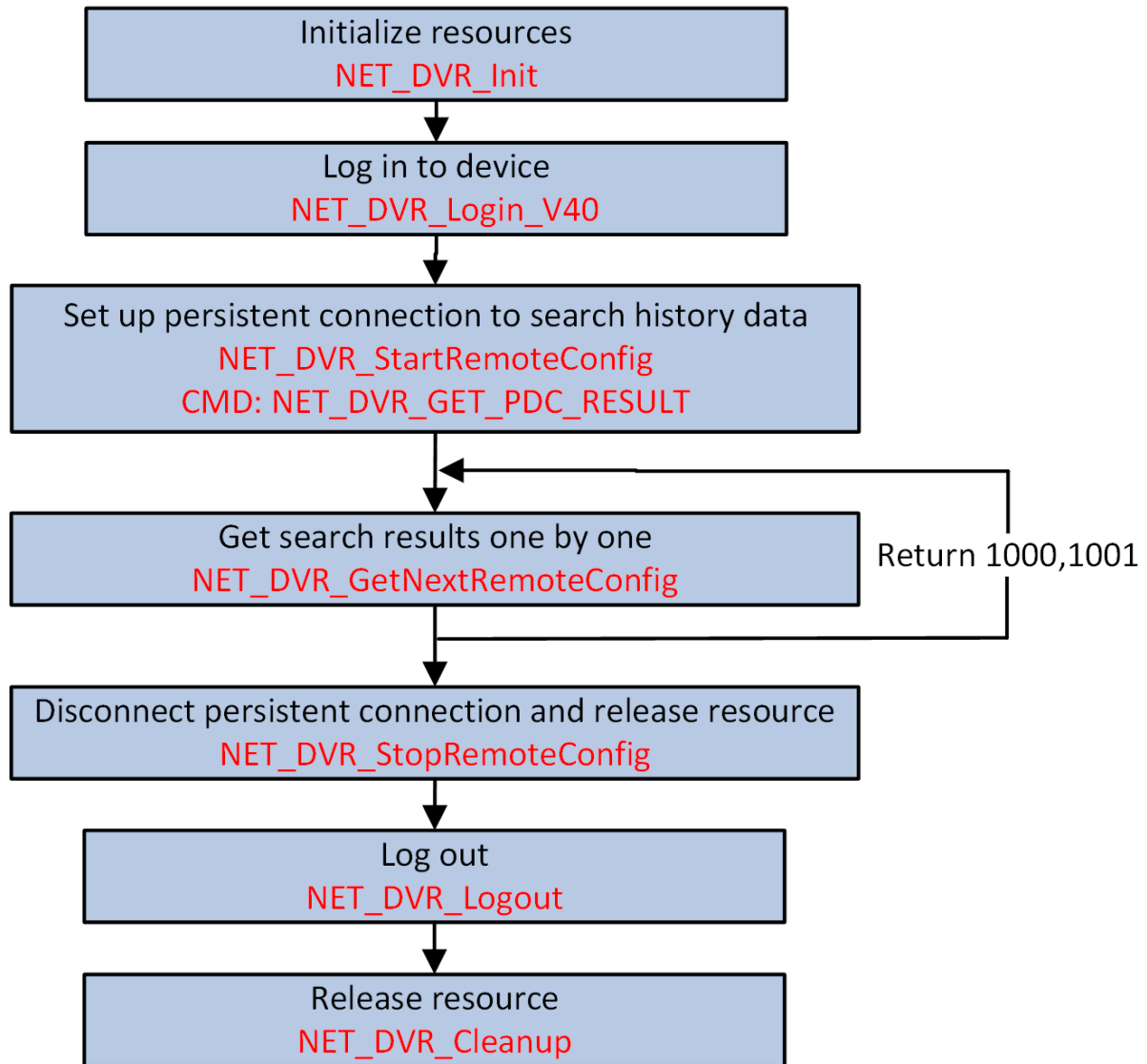
Figure 2-6 Programming Flow of Searching Data and Report

📖**Note**

- For rear-end devices, to check if searching people counting statistics of multiple channels is supported, you can call ***NET_DVR_GetDeviceAbility*** and specify the capability type as "DEVICE_SOFTHARDWARE_ABILITY" (macro definition value: 0x001) to get the software and hardware capability (***XML_BasicCapability***). If supports, the node <**isSupportMultiChannelSearch**> will be returned and its value is "true".
- For front-end devices, to check if searching people counting statistics of multiple channels is supported, you can call ***NET_DVR_GetDeviceAbility*** , specify the capability type (**dwAbilityType**) as "DEVICE_ABILITY_INFO" (macro definition value: 0x011), and set the input buffer pointer

(**pInBuf**) to ***XML_Desc_VcaChanAbility*** . If supports, the node <**isSupportMultiChannelSearch**> will be returned and its value is "true".

- To check if searching people counting statistics of different time periods is supported, you can call ***NET_DVR_STDXMLConfig*** to pass through the request URL: GET ***/ISAPI/ContentMgmt/ capabilities*** for getting storage configuration capability. If supports, the node <**isSupportCountingSearchByUTC**> will be returned and its value is "true".

1. Call ***NET_DVR_StartRemoteConfig*** with ***NET_DVR_GET_PDC_RESULT*** (command No.: 5089) and specify **lpInBuff** to ***NET_DVR_PDC_QUERY_COND***) for setting up persistent connection and start searching.

2. Call ***NET_DVR_GetNextRemoteConfig*** to get the search results one by one.

   🛈**Note**

   If *1000* (One result is found) and *1001* (Searching) returned, you should call this API repeatedly; if *1002* (Ended) or *1003* (Exception) is returned, you should stop calling this API.

   The search results are returned in the structure ***NET_DVR_PDC_RESULT*** by **lpOutBuff**.

3. Call ***NET_DVR_StopRemoteConfig*** to disconnect the persistent connection.

Example

Sample Code for Searching History Data

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;

void main() {
    //--------------------------------------
    // Initialize
    NET_DVR_Init();
    //Set connection time and reconnection time
    NET_DVR_SetConnectTime(2000, 1);
    NET_DVR_SetReconnect(10000, true);

    //--------------------------------------
    // Log in to device.
    LONG lUserID;

    //Login parameters, including device IP address, user name, password, and so on.
    NET_DVR_USER_LOGIN_INFO struLoginInfo = {0};
    struLoginInfo.bUseAsynLogin = 0; //Synchronous login mode
    strcpy(struLoginInfo.sDeviceAddress, "192.0.0.64"); //IP address
    struLoginInfo.wPort = 8000; //Service port
    strcpy(struLoginInfo.sUserName, "admin"); //User name
    strcpy(struLoginInfo.sPassword, "abcd1234"); //Password

    //Device information, output parameter
```

```
NET_DVR_DEVICEINFO_V40 struDeviceInfoV40 = {0};

lUserID = NET_DVR_Login_V40(&struLoginInfo, &struDeviceInfoV40);
if (lUserID < 0)
{
    printf("Login failed, error code: %d\n", NET_DVR_GetLastError());
    NET_DVR_Cleanup();
    return;
}

NET_DVR_PDC_QUERY_COND m_struPdcResultCond={0};
m_struPdcResultCond.dwSize = sizeof(m_struPdcResultCond);//Condition for searching people counting data
m_struPdcResultCond.dwChannel = 1; //Device channel No.

//Start time
m_struPdcResultCond.struStartTime.wYear = 2016;
m_struPdcResultCond.struStartTime.byMonth = 9;
m_struPdcResultCond.struStartTime.byDay = 5;
m_struPdcResultCond.struStartTime.byHour = 00;
m_struPdcResultCond.struStartTime.byMinute = 00;
m_struPdcResultCond.struStartTime.bySecond = 00;

//End time
m_struPdcResultCond.struEndTime.wYear = 2016;
m_struPdcResultCond.struEndTime.byMonth = 9;
m_struPdcResultCond.struEndTime.byDay = 11;
m_struPdcResultCond.struEndTime.byHour = 23;
m_struPdcResultCond.struEndTime.byMinute = 59;
m_struPdcResultCond.struEndTime.bySecond = 59;

m_struPdcResultCond.byReportType = 2; //Search type: 0-Invalid, 1-Daily Report, 2-Weekly Report, 3- Monthly
Report, 4-Annual Report

LONG m_lHandle = NET_DVR_StartRemoteConfig(lUserID, NET_DVR_GET_PDC_RESULT, &m_struPdcResultCond,
sizeof(m_struPdcResultCond), NULL, NULL);
if (m_lHandle >= 0)
{
    LONG iNextRet = 0;
    NET_DVR_PDC_RESULT m_struPdcResult = {0};
    while(true)
    {
        iNextRet = NET_DVR_GetNextRemoteConfig(m_lHandle, &m_struPdcResult, sizeof(NET_DVR_PDC_RESULT));
        if (iNextRet == NET_SDK_GET_NEXT_STATUS_SUCCESS) //Data is found.
        {
            printf("StartTime[%4.4d%2.2d%2.2d%2.2d%2.2d%2.2d]EndTime[%4.4d%2.2d%2.2d%2.2d%2.2d
%2.2d]dwEnterNum[%d]dwLeaveNum[%d]\n",\
                m_struPdcResult.struStartTime.wYear, m_struPdcResult.struStartTime.byMonth,
m_struPdcResult.struStartTime.byDay,\
                m_struPdcResult.struStartTime.byHour, m_struPdcResult.struStartTime.byMinute,
m_struPdcResult.struStartTime.bySecond,\
                m_struPdcResult.struEndTime.wYear, m_struPdcResult.struEndTime.byMonth,
m_struPdcResult.struEndTime.byDay, \
```

```
            m_struPdcResult.struEndTime.byHour, m_struPdcResult.struEndTime.byMinute,
m_struPdcResult.struEndTime.bySecond);
        }
        else
        {
          if (iNextRet == NET_SDK_GET_NETX_STATUS_NEED_WAIT) //Wait for the device to send data
          {
            Sleep(5);
            continue;
          }
          if (iNextRet == NET_SDK_GET_NEXT_STATUS_FINISH) //All data found.
          {
            printf("People counting data search ended.\n");
            break;
          }
          else if(iNextRet == NET_SDK_GET_NEXT_STATUS_FAILED) //Search exception.
          {
            printf("Search exception.\n");
            break;
          }
          else
          {
            printf("Unknown status.\n");
            break;
          }
        }

      }

  }
  else
  {
    printf("Search failed. Error code: %d\n",NET_DVR_GetLastError());
  }

  if (m_lHandle >= 0)
  {
    if (!NET_DVR_StopRemoteConfig(m_lHandle))
    {
      printf("Stopping searching people counting data failed.Error code: %d\n",NET_DVR_GetLastError());
    }
  }

  //Log out
  NET_DVR_Logout(lUserID);
  //Release SDK resource
  NET_DVR_Cleanup();
  return;
}
```

What to do next
Call **_NET_DVR_Logout_** and **_NET_DVR_Cleanup_** to log out and release resources.

2.5 Other Configuration

OSD Settings

- Get people counting information which displayed on live video
  Call **_NET_DVR_GetSTDConfig_** with NET_DVR_GET_POSINFO_OVERLAY (command No.: 3961) and set **lpCondBuffer** in **_NET_DVR_STD_CONFIG_** to 4-byte channel No.
  The displayed people counting information is returned in **_NET_DVR_POSINFO_OVERLAY_** by **lpOutBuffer** of **_NET_DVR_STD_CONFIG_** .
- Display people counting information on live video
  Call **_NET_DVR_SetSTDConfig_** with NET_DVR_SET_POSINFO_OVERLAY (command No.: 3960), set **lpCondBuffer** of **_NET_DVR_STD_CONFIG_** to 4-byte channel No., and specify **lpInBuffer** of **_NET_DVR_STD_CONFIG_** as **_NET_DVR_POSINFO_OVERLAY_** .

Shielded Area Settings

- Get configuration capability of shielded area for smart detection
  Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: GET **_/ISAPI/Smart/Shield/channels/<channelID>/capabilities_** .
  The configuration capability is returned in the message **_XML_Smart_ShieldCap_** by **lpOutputParam**.
- Get parameters of shielded area for smart detection
  Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: GET **_/ISAPI/Smart/Shield/channels/<channelID>_** .
  The parameters are returned in the message **_XML_Smart_Shield_** by **lpOutputParam**.
- Set parameters of shielded area for smart detection
  Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: PUT **_/ISAPI/Smart/Shield/channels/<channelID>_** and set **lpOInputParam** to **_XML_Smart_Shield_** .

Advanced Settings

- Get people counting status
  Call **_NET_DVR_STDXMLConfig_** to pass through the request URL: GET **_/ISAPI/System/Video/inputs/channels/<ID>/counting/status_** .
  The status is returned in the message **_XML_CountingStatus_** by **lpOutputParam**.
- Clear People Counting Data
  - Clear all people counting data stored in flash storage
    Call **_NET_DVR_STDControl_** with NET_DVR_REMOVE_FLASHSTORAG (command No.: 3756) and set **lpCondBuffer**of **_NET_DVR_STD_CONTROL_** to **_NET_DVR_FLASHSTORAGE_REMOVE_** .
  - Get parameters of clearing displayed or current day's data
    Call **_NET_DVR_GetDVRConfig_** with NET_DVR_GET_RESET_COUNTER (command No.: 5025).
    The parameters are returned in **_NET_DVR_RESET_COUNTER_CFG_** by **lpOutBuffer**.
  - Set parameters to clear displayed or current day's data

Call **_NET_DVR_SetDVRConfig_** with NET_DVR_SET_RESET_COUNTER (command No.: 5026) and set **lpOutBuffer** to **_NET_DVR_RESET_COUNTER_CFG_** .

---

[i]**Note**

To check if clearing people counting data is supported by device, you can call **_NET_DVR_GetDeviceAbility_** , specify **dwAbilityType** as "DEVICE_ABILITY_INFO" (macro definition value: 0x011), and set **pInBuf** to **_XML_Desc_VcaChanAbility_** for getting VCA channel capability (**_XML_VcaChanAbility_**). If supports, the sub node <**resetCounter**> of node <**PDC**> will be returned in the capability message.

Chapter 3 API Reference

3.1 NET_DVR_GetDeviceAbility

Get the device capabilities.

API Definition

```
BOOL NET_DVR_GetDeviceAbility(
 LONG    lUserID,
 DWORD   dwAbilityType,
 char    *pInBuf,
 DWORD   dwInLength,
 char    *pOutBuf,
 DWORD   dwOutLength
);
```

Parameters

lUserID

[IN] Value returned by **_NET_DVR_Login_V40_** .

dwAbilityType

[IN] Capability types, which are different according to different devices and functions.

pInBuf

[IN] Input parameter buffer pointer, which are different according to different devices and functions, and they are returned in the structure or messages.

dwInLength

[IN] Size of input buffer.

pOutBuf

[OUT] Output parameter buffer pointer, which are different according to different devices and functions, and they are returned in the structure or messages.

dwOutLength

[OUT] Size of buffer for receiving data.

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

3.2 NET_DVR_GetDeviceConfig

Get device configuration information in batch (with sending data).

API Definition

```
BOOL NET_DVR_GetDeviceConfig(
  LONG     lUserID,
  DWORD    dwCommand,
  DWORD    dwCount,
  LPVOID   lpInBuffer,
  DWORD    dwInBufferSize,
  LPVOID   lpStatusList,
  LPVOID   lpOutBuffer,
  DWORD    dwOutBufferSize
);
```

Parameters

lUserID

[IN] Value returned by *__NET_DVR_Login_V40__* .

dwCommand

[IN] Device getting commands. The commands are different for different getting functions.

dwCount

[IN] Number of configurations (cameras) to get at a time. 0, 1-one camera, 2-two cameras, 3-three cameras, and so on. Up to 64 cameras' configuration information can be obtained at a time.

lpInBuffer

[IN] Pointer of configuration condition buffer, which specifies the number (**dwCount**) of configurations to get, and relates to the getting commands.

dwInBufferSize

[IN] Size of configuration condition buffer, which saves the obtained configuration information (the number is **dwCount**).

lpStatusList

[OUT] Error information list, and its memory is allocated by user, each error information contains 4 bytes (a unsigned 32-bit integer).

There is a one-to-one correspondence between the errors in the list and the cameras need to search, e.g., **lpStatusList[2]** corresponds to **lpInBuffer[2]**.

If the parameter value is 0 or 1, it refers to getting succeeded, otherwise, this parameter value is the error code.

lpOutBuffer

[OUT] Parameters returned by device, which relates to the getting commands. And there is a one-to-one correspondence between the parameters and the cameras need to search.

If the **lpStatusList** of one camera is larger than 1, the corresponding **lpOutBuffer** is invalid.

dwOutBufferSize

[IN] Total size of returned results (the number is **dwCount**).

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure. If returns *TRUE*, it does not mean that all configurations are obtained, you can check the value of **lpStatusList[n]** to judge which one is succeeded.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.

See Also

NET_DVR_SetDeviceConfig

3.3 NET_DVR_GetNextRemoteConfig

Get the next search result.

API Definition

```
LONG NET_DVR_GetNextRemoteConfig(
  LONG    lHandle,
  void    *lpOutBuff,
  DWORD   dwOutBuffSize
);
```

Parameters

lHandle

[IN] Search handle, which is the value returned by **NET_DVR_StartRemoteConfig** .

lpOutBuff

[OUT] Output parameter buffer pointer, which relates to the commands (**dwCommand**) of **NET_DVR_StartRemoteConfig** .

dwOutBuffSize

[IN] Buffer size.

Return Values

Returns *-1* for failure, and returns other values for the current statuses, see details in the following table.

Status	Value	Description
NET_SDK_GET_NEXT_STATUS_ SUCCESS	1000	The data is obtained. The API NET_DVR_ GetNextRemoteConfig should be called again to get the next item of data.
NET_SDK_GET_NETX_STATUS_ NEED_WAIT	1001	Waiting. The API NET_DVR_GetNextRemoteConfig can be called again.
NET_SDK_GET_NEXT_STATUS_ FINISH	1002	All data is obtained. The API **_NET_DVR_StopRemoteConfig_** can be called to end.
NET_SDK_GET_NEXT_STATUS_ FAILED	1003	Getting data exception. The API **_NET_DVR_StopRemoteConfig_** can be called to end.

If -1 is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

Remarks

To get all information, you should call this API repeatedly.

3.4 NET_DVR_GetRemoteConfigState

Get the status of persistent connection.

API Definition

```
BOOL NET_DVR_GetRemoteConfigState(
 LONG    lHandle,
 void    *pState
);
```

Parameters

lHandle

[IN] Handle, which is returned by **_NET_DVR_StartRemoteConfig_** .

pState

[OUT] A 4-byte status value, the returned statuses are different according to different remote configuration commands

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

3.5 NET_DVR_GetSTDConfig

Get the device configuration information.

API Definition

```
BOOL NET_DVR_GetSTDConfig(
 LONG              lUserID,
 DWORD            dwCommand,
 NET_DVR_STD_CONFIG      lpConfigParam
);
```

Parameters

lUserID

[IN] Value returned by **NET_DVR_Login_V40** .

dwCommand

[IN] Device configuration commands, which are different according to different configuration functions.

lpConfigParam

[IN][OUT] Set input and output parameters, which are different according to different configuration functions. For different configuration functions, the **lpCondBuffer** and **lpOutBuffer** in the **lpConfigParam** are also different. See the structure **NET_DVR_STD_CONFIG** for details.

⌐ⅈ┐Note

When getting configuration parameters, the **lpInBuffer** in the **lpConfigParam** is invalid, you can set it to NULL.

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.

See Also

NET_DVR_SetSTDConfig

3.6 NET_DVR_SetDeviceConfig

Set device parameters in batch (sending data is supported).

API Definition

```
BOOL NET_DVR_SetDeviceConfig(
 LONG     lUserID,
```

```
DWORD    dwCommand,
DWORD    dwCount,
LPVOID   lpInBuffer,
DWORD    dwInBufferSize,
LPVOID   lpStatusList,
LPVOID   lpInParamBuffer,
DWORD    dwInParamBufferSize
);
```

Parameters

lUserID

[IN] Value returned by **_NET_DVR_Login_V40_** .

dwCommand

[IN] Device configuration commands, which are different according to different configurations.

dwCount

[IN] Number of cameras to be set at a time. 0,1-one camera, 2-two cameras, 3-three cameras, and so on. Up to 256 cameras can be configured at a time.

lpInBuffer

[IN] Pointer of configuration condition buffer, e.g., stream ID, which specifies the number (**dwCount**) of cameras to set, and relates to the configuration commands.

dwInBufferSize

[IN] Size of configuration condition buffer, which saves the configured information of cameras with the number of **dwCount**.

lpStatusList

[OUT] Error information list, and its memory is allocated by user, each error information contains 4 bytes (a unsigned 32-bit integer).

There is a one-to-one correspondence between the errors in the list and the cameras that need to be searched, e.g., **lpStatusList[2]** corresponds to **lpInBuffer[2]**.

If the parameter value is 0, it refers to setting succeeded, otherwise, this parameter value is the error code.

lpInParamBuffer

[IN] Device parameters to set, which relates to the configuration commands. And there is a one-to-one correspondence between the parameters and the cameras that need to be searched.

dwInParamBufferSize

[IN] Set the size of content buffer.

Return Values

Returns *TRUE* for success, and returns *FALSE* for all failed. If returns *TRUE*, it does not indicate that all settings are succeeded, you can get the value of **lpStatusList[n]** to check which one is succeeded.

If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

See Also

_NET_DVR_GetDeviceConfig_

3.7 NET_DVR_SetSTDConfig

Set the device parameters.

API Definition

```
BOOL NET_DVR_SetSTDConfig(
  LONG              lUserID,
  DWORD             dwCommand,
  NET_DVR_STD_CONFIG    lpConfigParam
);
```

Parameters

lUserID

[IN] Value returned by **_NET_DVR_Login_V40_** .

dwCommand

[IN] Device configuration commands, which are different according to different configuration functions.

lpConfigParam

[IN][OUT] Set input and output parameters, which are different according to different configuration functions. For different configuration functions, the **lpCondBuffer** and **lpInBuffer** in the **lpConfigParam** are also different. See the structure **_NET_DVR_STD_CONFIG_** for details.

ⓘNote

When getting configuration parameters, the **lpOutBuffer** in the **lpConfigParam** is invalid, you can set it to "NULL".

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

See Also

_NET_DVR_GetSTDConfig_

3.8 NET_DVR_StartRemoteConfig

Enable remote configuration.

API Definition

```
LONG NET_DVR_StartRemoteConfig(
  LONG            lUserID,
  DWORD             dwCommand,
  LPVOID          lpInBuffer,
  DWORD             dwInBufferLen,
  fRemoteConfigCallback   cbStateCallback,
  LPVOID            pUserData
);
```

Parameters

lUserID

[IN] Value returned by **_NET_DVR_Login_V40_** .

dwCommand

[IN] Configuration commands. For different functions, the commands and **lpInBuffer** are different, see the detailed relation in the table below:

dwCommand Macro Definition	Value	Description	lpInBuffer Related Structure	lpBuffer Related Structure
NET_DVR_GET_ALL_ RECORD_PASSBACK_TASK_ MANUAL	6235	Get tasks of manually copying back videos	**_NET_DVR_RECO RD_PASSBACK_ MANUAL_COND_**	**_NET_DVR_RECO RD_PASSBACK_ MANUAL_TASK_ RET_**

lpInBuffer

Input parameter buffer pointer, which relates to the configuration command.

dwInBufferLen

[IN] Size of input buffer.

cbStateCallback

[IN] Status callback function, see the definition in **_fRemoteConfigCallback_** .

pUserData

[OUT] User data.

Return Values

Returns -*1* for failure, and returns other values for the handles of **_NET_DVR_GetNextRemoteConfig_** and **_NET_DVR_StopRemoteConfig_** .

If -*1* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

Remarks

This API specifies the information to search. After calling this API, you can call **_NET_DVR_GetNextRemoteConfig_** to get the information one by one.

3.8.1 fRemoteConfigCallback

Function for calling back the persistent connection status and data to be transmitted.

Callback Function Definition

```
void(CALLBACK *fRemoteConfigCallback)(
 DWORD    dwType,
 void     *lpBuffer,
 DWORD    dwBufLen,
 void     *pUserData
);
```

Parameters

dwType

   [OUT] Connection statuses, see the macro definitions below:

```
enum _NET_SDK_CALLBACK_TYPE_{
 NET_SDK_CALLBACK_TYPE_STATUS   = 0,
 NET_SDK_CALLBACK_TYPE_PROGRESS = 1,
 NET_SDK_CALLBACK_TYPE_DATA    = 2
}NET_SDK_CALLBACK_TYPE
```

   NET_SDK_CALLBACK_TYPE_STATUS

      Connection status.

   NET_SDK_CALLBACK_TYPE_PROGRESS

      Connection progress.

   NET_SDK_CALLBACK_TYPE_DATA

      Related data to be called back.

lpBuffer

   [OUT] Pointer of buffer for saving progress, status, and related data to be called back, which relates to **dwType**, see details in the following table.

dwType	lpBuffer
NET_SDK_CALLBACK_TYPE_STATUS	If **dwBufLen** is 4, **lpBuffer** is 4-byte connection status; if **dwBufLen** is 8, **lpBuffer** consists of 4-byte connection status and 4-byte error code. The connection status is enumerated in ***NET_SDK_CALLBACK_STATUS_NORMAL***
NET_SDK_CALLBACK_TYPE_PROGRESS	Connection progress value.
NET_SDK_CALLBACK_TYPE_DATA	Data structures to be returned, which are different according to different commands (**dwCommand**) in ***NET_DVR_StartRemoteConfig*** .

dwBufLen

[OUT] Buffer size.

pUserData

[OUT] User data.

3.9 NET_DVR_StopRemoteConfig

Disconnect the persistent connection to stop remote configuration, and release resources.

API Definition

```
BOOL NET_DVR_StopRemoteConfig(
  LONG   lHandle
);
```

Parameters

lHandle

[IN] Handle, which is returned by ***NET_DVR_StartRemoteConfig*** .

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call ***NET_DVR_GetLastError*** to get the error code.

3.10 NET_DVR_STDXMLConfig

Transmit request URL with XML or JSON format to implement some typical functions.

API Definition

```
BOOL NET_DVR_STDXMLConfig(
  LONG                    lUserID,
  const NET_DVR_XML_CONFIG_INPUT    *lpInputParam,
  NET_DVR_XML_CONFIG_OUTPUT        *lpOutputParam
);
```

Parameters

lUserID

[IN] Value returned by **NET_DVR_Login_V40** .

lpInputParam

[IN] Input parameters, refer to the structure **NET_DVR_XML_CONFIG_INPUT** for details.

lpOutputParam

[IN][OUT] Output parameters, refer to the structure **NET_DVR_XML_CONFIG_OUTPUT** for details.

Return Values

Return *TRUE* for success, and return *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.

Remarks

The input parameter **lpInputParam** and output parameter **lpOutputParam** are different when transmitting text protocol for implementing different functions, and each parameter corresponds to a component of text protocol, see the relations below:

Parameter of NET_DVR_STDXMLConfig		Component of Text Protocol
lpInputParam	**lpRequestUrl** (see in structure **NET_DVR_XML_CONFIG_INPUT**)	Method+URL E.g., GET /ISAPI/System/ capabilities
	lpInBuffer (see in structure **NET_DVR_XML_CONFIG_INPUT**)	Request Message
lpOutputParam	**lpOutBuffer** (see in structure **NET_DVR_XML_CONFIG_OUTPUT**)	Response Message
	lpStatusBuffer (see in structure **NET_DVR_XML_CONFIG_OUTPUT**)	Response Message

3.11 NET_DVR_STDControl

Control remotely.

API Definition

```
BOOL NET_DVR_STDControl(
 LONG              lUserID,
 DWORD             dwCommand,
 LPNET_DVR_STD_CONTROL   lpControlParam
);
```

Parameters

lUserID

    [IN] Value returned by **_NET_DVR_Login_V40_** .

dwCommand

    [IN] Control commands.

lpControlParam

    [IN][OUT] Input parameters and output parameters of remote control. The parameters are different according to different control commands, see details in the structure of **_NET_DVR_STD_CONTROL_** .

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

3.12 NET_DVR_CloseAlarmChan_V30

Close alarm uploading channel.

API Definition

```
BOOL NET_DVR_CloseAlarmChan_V30(
 LONG   lAlarmHandle
);
```

Parameters

lAlarmHandle

    Value returned by **_NET_DVR_SetupAlarmChan_V50_** .

Return Values

Return *TURE* for success, and return *FALSE* for failure.
If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.
The available error codes of this API are 0, 3, 6, 12, 17, 41, and 47. See details in the **_Device Network SDK Errors_** .

3.13 NET_DVR_GetDVRConfig

Get the device configuration information.

API Definition

```
BOOL NET_DVR_GetDVRConfig(
  LONG     lUserID,
  DWORD    dwCommand,
  LONG     lRuleID,
  LONG     lChannel,
  LPVOID   lpOutBuffer,
  DWORD    dwOutBufferSize,
  LPDWORD  lpBytesReturned
);
```

Parameters

lUserID

    [IN] Value returned by **_NET_DVR_Login_V40_** .

dwCommand

    [IN] Device getting commands, which are different according to different getting functions.

lRuleID

    [IN] Rule ID.

lChannel

    [IN] Channel No. (NIC No.), which varies with different commands. 0xffffffff-invalid or all channels, 1-main NIC, 2-extended NIC.

lpOutBuffer

    [OUT] Pointer of buffer to receive data. For different getting functions, the structures of this parameter are different.

dwOutBufferSize

    [IN] Size of buffer to receive data (unit: byte). It cannot be 0.

lpBytesReturned

    [OUT] Pointer of actually received data size. It cannot be NULL.

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.
The following error codes may be returned by this API: 0, 3, 6, 7, 8, 9, 10, 12, 17, 41, 43, 44, 47, 72, 73, and 76. See the corresponding error types and descriptions in the **Device Network SDK Errors** .

See Also

NET_DVR_SetDVRConfig

3.14 NET_DVR_SetDVRConfig

Set the device parameters.

API Definition

```
BOOL NET_DVR_SetDVRConfig(
 LONG    lUserID,
 DWORD    dwCommand,
 LONG    lChannel,
 LPVOID    lpInBuffer,
 DWORD    dwInBufferSize
);
```

Parameters

lUserID

   [IN] Value returned by **NET_DVR_Login_V40** .

dwCommand

   [IN] Device configuration commands, which are different according to different configuration functions.

lChannel

   [IN] Channel No. (NIC No.), which varies with different commands. 0xFFFFFFFF-invalid, 1-main NIC, 2-extended NIC.

lpInBuffer

   [IN] Pointer of input data buffer. For different configuration functions, the structures of this parameter are different.

dwInBufferSize

   [IN] Size of input data buffer (unit: byte).

Return Values

Returns *TRUE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.

The following error codes may be returned by this API: 0, 3, 6, 7, 8, 9, 10, 12, 17, 41, 43, 44, 47, 72, 73, and 76. See the corresponding error types and descriptions in the ***Device Network SDK Errors*** .

See Also
NET_DVR_GetDVRConfig

3.15 NET_DVR_SetDVRMessageCallBack_V50

Set callback functions for getting the video data.

API Definition

```
BOOL NET_DVR_SetDVRMessageCallBack_V50(
 int        iIndex,
 MSGCallBack    fMessageCallBack,
 void        *pUser
);
```

Parameters

iIndex

[IN] Callback function index No., which ranges from 0 to 15.

fMessageCallBack

[IN] Callback function, see details in ***MSGCallBack*** .

pUser

[IN] User data.

Return Values

Return *TRUE* for success, and return *FALSE* for failure.
If *FALSE* returned, call ***NET_DVR_GetLastError*** to get the error code.

Remarks

- This API supports setting multiple callback functions for different channels (up to 16 channels are supported) at same time, and the configured callback functions are distinguished by the index No.
- All alarm/event information will be returned in each configured callback function, and you can distinguish the devices via the **pAlarmInfo** in the callback function (***MSGCallBack***).

Example
Sample Code of Setting Multiple Callback Functions to Receive Different Alarms/Events in Arming Mode

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
```

```
#include "HCNetSDK.h"
using namespace std;

int iNum=0;
void CALLBACK MessageCallbackNo1(LONG lCommand, NET_DVR_ALARMER *pAlarmer, char *pAlarmInfo, DWORD
dwBufLen, void* pUser)
{
    int i=0;
    char filename[100];
    FILE *fSnapPic=NULL;
    FILE *fSnapPicPlate=NULL;

    //This sample code is for reference only. Actually, it is not recommended to process the data and save file in the
callback function directly.
    //You'd better process the data in the message response funcion via message mode (PostMessage).

    switch(lCommand)
    {
        case COMM_ALARM:
        {
            NET_DVR_ALARMINFO struAlarmInfo;
            memcpy(&struAlarmInfo, pAlarmInfo, sizeof(NET_DVR_ALARMINFO));
            switch (struAlarmInfo.dwAlarmType)
            {
                case 3: //Motion detection alarm
                    for (i=0; i<16; i++)  //#define MAX_CHANNUM   16  //The maximum number of channels
                    {
                        if (struAlarmInfo.dwChannel[i] == 1)
                        {
                            printf("Channel Number with Motion Detection Alarm %d\n", i+1);
                        }
                    }
                    break;
                default:
                    break;
            }
            break;
        }
        case COMM_UPLOAD_PLATE_RESULT:
        {
            NET_DVR_PLATE_RESULT struPlateResult={0};
            memcpy(&struPlateResult, pAlarmInfo, sizeof(struPlateResult));
            printf("License Plate Number: %s\n", struPlateResult.struPlateInfo.sLicense);//License plate number

            switch(struPlateResult.struPlateInfo.byColor)//License plate color
            {
            case VCA_BLUE_PLATE:
                printf("Vehicle Color: Blue\n");
                break;
            case VCA_YELLOW_PLATE:
                printf("Vehicle Color: Yellow\n");
                break;
```

```
    case VCA_WHITE_PLATE:
      printf("Vehicle Color: White\n");
      break;
    case VCA_BLACK_PLATE:
      printf("Vehicle Color: Black\n");
      break;
    default:
      break;
    }
    //Scene picture
    if (struPlateResult.dwPicLen != 0 && struPlateResult.byResultType == 1 )
    {
      sprintf(filename,"testpic_%d.jpg",iNum);
      fSnapPic=fopen(filename,"wb");
      fwrite(struPlateResult.pBuffer1,struPlateResult.dwPicLen,1,fSnapPic);
      iNum++;
      fclose(fSnapPic);
    }
    //License plate picture
    if (struPlateResult.dwPicPlateLen != 0 && struPlateResult.byResultType == 1)
    {
      sprintf(filename,"testPicPlate_%d.jpg",iNum);
      fSnapPicPlate=fopen(filename,"wb");
      fwrite(struPlateResult.pBuffer1,struPlateResult.dwPicLen,1,fSnapPicPlate);
      iNum++;
      fclose(fSnapPicPlate);
    }
    //Processing other data...
    break;
  }
  case COMM_ITS_PLATE_RESULT:
  {
    NET_ITS_PLATE_RESULT struITSPlateResult={0};
    memcpy(&struITSPlateResult, pAlarmInfo, sizeof(struITSPlateResult));

    for (i=0;i<struITSPlateResult.dwPicNum;i++)
    {
      printf("License Plate Number: %s\n", struITSPlateResult.struPlateInfo.sLicense);//License plate number
      switch(struITSPlateResult.struPlateInfo.byColor)//License plate color
      {
      case VCA_BLUE_PLATE:
        printf("Vehicle Color: Blue\n");
        break;
      case VCA_YELLOW_PLATE:
        printf("Vehicle Color: Yellow\n");
        break;
      case VCA_WHITE_PLATE:
        printf("Vehicle Color: White\n");
        break;
      case VCA_BLACK_PLATE:
        printf("Vehicle Color: Black\n");
        break;
```

```
            default:
               break;
            }
            //Save scene picture
            if ((struITSPlateResult.struPicInfo[i].dwDataLen != 0)&&(struITSPlateResult.struPicInfo[i].byType== 1)||
(struITSPlateResult.struPicInfo[i].byType == 2))
            {
               sprintf(filename,"testITSpic%d_%d.jpg",iNum,i);
               fSnapPic=fopen(filename,"wb");
               fwrite(struITSPlateResult.struPicInfo[i].pBuffer, struITSPlateResult.struPicInfo[i].dwDataLen,1,fSnapPic);
               iNum++;
               fclose(fSnapPic);
            }
            //License plate thumbnails
            if ((struITSPlateResult.struPicInfo[i].dwDataLen != 0)&&(struITSPlateResult.struPicInfo[i].byType == 0))
            {
               sprintf(filename,"testPicPlate%d_%d.jpg",iNum,i);
               fSnapPicPlate=fopen(filename,"wb");
               fwrite(struITSPlateResult.struPicInfo[i].pBuffer, struITSPlateResult.struPicInfo[i].dwDataLen, 1, \
fSnapPicPlate);
               iNum++;
               fclose(fSnapPicPlate);
            }
            //Processing other data...
         }
         break;
      }
   default:
      break;
   }
}

void CALLBACK MessageCallbackNo2(LONG lCommand, NET_DVR_ALARMER *pAlarmer, char *pAlarmInfo, DWORD
dwBufLen, void* pUser)
{
   int i=0;
   char filename[100];
   FILE *fSnapPic=NULL;
   FILE *fSnapPicPlate=NULL;

   //This sample code is for reference only. Actually, it is not recommended to process the data and save file in the
callback function directly.
   //You'd better process the data in the message response funcion via message mode (PostMessage).

   switch(lCommand)
   {
      case COMM_ALARM:
      {
         NET_DVR_ALARMINFO struAlarmInfo;
         memcpy(&struAlarmInfo, pAlarmInfo, sizeof(NET_DVR_ALARMINFO));
         switch (struAlarmInfo.dwAlarmType)
         {
```

```
      case 3: //Motion detection alarm
        for (i=0; i<16; i++)   //#define MAX_CHANNUM   16  //The maximum number of channel
        {
          if (struAlarmInfo.dwChannel[i] == 1)
          {
            printf("Channel No. with Motion Detection Alarm %d\n", i+1);
          }
        }
        break;
      default:
        break;
    }
    break;
}
case COMM_UPLOAD_PLATE_RESULT:
{
    NET_DVR_PLATE_RESULT struPlateResult={0};
    memcpy(&struPlateResult, pAlarmInfo, sizeof(struPlateResult));
    printf("License Plate Number: %s\n", struPlateResult.struPlateInfo.sLicense);//License plate number

    switch(struPlateResult.struPlateInfo.byColor)//License plate color
    {
    case VCA_BLUE_PLATE:
        printf("Vehicle Color: Blue\n");
        break;
    case VCA_YELLOW_PLATE:
        printf("Vehicle Color: Yellow\n");
        break;
    case VCA_WHITE_PLATE:
        printf("Vehicle color: White\n");
        break;
    case VCA_BLACK_PLATE:
        printf("Vehicle Color: Black\n");
        break;
    default:
        break;
    }
    //Scene picture
    if (struPlateResult.dwPicLen != 0 && struPlateResult.byResultType == 1 )
    {
        sprintf(filename,"testpic_%d.jpg",iNum);
        fSnapPic=fopen(filename,"wb");
        fwrite(struPlateResult.pBuffer1,struPlateResult.dwPicLen,1,fSnapPic);
        iNum++;
        fclose(fSnapPic);
    }
    //License plate picture
    if (struPlateResult.dwPicPlateLen != 0 && struPlateResult.byResultType == 1)
    {
        sprintf(filename,"testPicPlate_%d.jpg",iNum);
        fSnapPicPlate=fopen(filename,"wb");
        fwrite(struPlateResult.pBuffer1,struPlateResult.dwPicLen,1,fSnapPicPlate);
```

```
            iNum++;
            fclose(fSnapPicPlate);
        }
        //Processing other data...
        break;
    }
    case COMM_ITS_PLATE_RESULT:
    {
        NET_ITS_PLATE_RESULT struITSPlateResult={0};
        memcpy(&struITSPlateResult, pAlarmInfo, sizeof(struITSPlateResult));

        for (i=0;i<struITSPlateResult.dwPicNum;i++)
        {
            printf("License Plate Number: %s\n", struITSPlateResult.struPlateInfo.sLicense);//License plate number
            switch(struITSPlateResult.struPlateInfo.byColor)//License plate color
            {
            case VCA_BLUE_PLATE:
                printf("Vehicle Color: Blue\n");
                break;
            case VCA_YELLOW_PLATE:
                printf("Vehicle Color: Yellow\n");
                break;
            case VCA_WHITE_PLATE:
                printf("Vehicle Color: White\n");
                break;
            case VCA_BLACK_PLATE:
                printf("Vehicle Color: Black\n");
                break;
            default:
                break;
            }
            //Save scene picture
            if ((struITSPlateResult.struPicInfo[i].dwDataLen != 0)&&(struITSPlateResult.struPicInfo[i].byType== 1)||
(struITSPlateResult.struPicInfo[i].byType == 2))
            {
                sprintf(filename,"testITSpic%d_%d.jpg",iNum,i);
                fSnapPic=fopen(filename,"wb");
                fwrite(struITSPlateResult.struPicInfo[i].pBuffer, struITSPlateResult.struPicInfo[i].dwDataLen,1,fSnapPic);
                iNum++;
                fclose(fSnapPic);
            }
            //License plate thumbnails
            if ((struITSPlateResult.struPicInfo[i].dwDataLen != 0)&&(struITSPlateResult.struPicInfo[i].byType == 0))
            {
                sprintf(filename,"testPicPlate%d_%d.jpg",iNum,i);
                fSnapPicPlate=fopen(filename,"wb");
                fwrite(struITSPlateResult.struPicInfo[i].pBuffer, struITSPlateResult.struPicInfo[i].dwDataLen, 1, \
fSnapPicPlate);
                iNum++;
                fclose(fSnapPicPlate);
            }
            //Processing other data...
```

```
        }
        break;
      }
    default:
      break;
    }
}

void main() {

  //-------------------------------------
  //Initialize
  NET_DVR_Init();
  //Set the connection time and reconnection time
  NET_DVR_SetConnectTime(2000, 1);
  NET_DVR_SetReconnect(10000, true);

  //-------------------------------------
  //Log in to device
  LONG lUserID;
  NET_DVR_DEVICEINFO_V30 struDeviceInfo;
  lUserID = NET_DVR_Login_V30("172.0.0.100", 8000, "admin", "12345", &struDeviceInfo);
  if (lUserID < 0)
  {
      printf("Login error, %d\n", NET_DVR_GetLastError());
      NET_DVR_Cleanup();
      return;
  }

  //Set alarm callback function
  NET_DVR_SetDVRMessageCallBack_V50(0, MessageCallbackNo1, NULL);
  NET_DVR_SetDVRMessageCallBack_V50(1, MessageCallbackNo2, NULL);

  //Enable arming
  NET_DVR_SETUPALARM_PARAM struSetupParam={0};
  struSetupParam.dwSize=sizeof(NET_DVR_SETUPALARM_PARAM);

  //Alarm information type to upload: 0-History Alarm (NET_DVR_PLATE_RESULT), 1-Real-Time Alarm
(NET_ITS_PLATE_RESULT)
  struSetupParam.byAlarmInfoType=1;
  //Arming Level: Level-2 arming (for traffic device)
  struSetupParam.byLevel=1;

  LONG lHandle = NET_DVR_SetupAlarmChan_V41(lUserID,&struSetupParam);
  if (lHandle < 0)
  {
      printf("NET_DVR_SetupAlarmChan_V41 error, %d\n", NET_DVR_GetLastError());
      NET_DVR_Logout(lUserID);
      NET_DVR_Cleanup();
      return;
  }
```

```
Sleep(20000);
//Disarm uploading channel
if (!NET_DVR_CloseAlarmChan_V30(lHandle))
{
    printf("NET_DVR_CloseAlarmChan_V30 error, %d\n", NET_DVR_GetLastError());
    NET_DVR_Logout(lUserID);
    NET_DVR_Cleanup();
    return;
}

//User logout
NET_DVR_Logout(lUserID);
//Release SDK resource
NET_DVR_Cleanup();
return;
}
```

See Also

NET_DVR_SetupAlarmChan_V50

3.15.1 MSGCallBack

Alarm/event information callback function.

Callback Function Definition

```
typedef void(CALLBACK *MSGCallBack)(
 LONG            lCommand,
 NET_DVR_ALARMER   *pAlarmer,
 char          *pAlarmInfo,
 DWORD           dwBufLen,
 void           *pUser
);
```

Parameters

lCommand

   [OUT] Uploaded message type. You can distinguish the alarm/event information via the type.

pAlarmer

   [OUT] Alarm device information, including serial No., IP address, login handle, and so on, see details in ***NET_DVR_ALARMER*** .

pAlarmInfo

   [OUT] Alarm/event information, the details are returned in different structures according to **lCommand**.

dwBufLen

[OUT] Size of alarm/event information buffer.

pUser

[OUT] User data.

3.16 NET_DVR_SetupAlarmChan_V50

Set up persistent connection to receive alarm/event information (supports alarm/event subscription).

API Definition

```
LONG NET_DVR_SetupAlarmChan_V50(
 LONG              lUserID,
 NET_DVR_SETUPALARM_PARAM_V50   lpSetupParam,
 char            *pData,
 DWORD             dwDataLen,
);
```

Parameters

lUserID

[IN] Value returned by **_NET_DVR_Login_V40_** .

lpSetupParam

[IN] Arming parameters, refer to the structure **_NET_DVR_SETUPALARM_PARAM_V50_** for details.

pData

[IN] Alarm/event subscription conditions.

dwDataLen

[IN] Length of alarm/event subscription conditions.

Return Values

Return -*1* for failure, and return other values as the handles of **_NET_DVR_CloseAlarmChan_V30_** . If -*1* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

Remarks

This API supports alarm/event subscription, you can specify the types of alarm or event to be uploaded by device by setting **pData** and **dwDataLen**.

3.17 NET_DVR_StartListen_V30

Register callback function for receiving alarm/event information and start listening (supports multiple threads).

API Definition

```
LONG NET_DVR_StartListen_V30(
  char       *sLocalIP,
  WORD       wLocalPort,
  MSGCallBack   DataCallback,
  void       *pUserData
);
```

Parameters

sLocalIP

[IN] IP address of local PC. It can be set to null.

wLocalPort

[IN] Listening port No. of local PC. It is configured by user, and it should be the same with that of device.

DataCallback

[IN] Alarm/event information callback function, see details in **_MSGCallBack_** .

pUserData

[IN] User data.

Return Values

Return *-1* for failure, and return other values for the handle parameters of **_NET_DVR_StopListen_V30_** .
If *-1* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.
The available error codes of this API are 0, 3, 6, 12, 17, 41, 44, 47, 72, and 75. See details in the **_Device Network SDK Errors_** .

Remarks

- To receive the alarm/event information sent by device, you should set the management host server address or listening host server address of device to the IP address of PC (which is same with the **sLocalIP**), or set the management host server port or listening host server port to the listening port No. of PC (which is same with the **wLocalPort**).
- The callback function in this API is prior to other callback functions, that is, if the callback function is configured in this API, other callback functions will not receive the alarm information. All the device alarm information is returned in same callback function, and you can distinguish the devices via the alarm device information (**pAlarmInfo**).

3.18 NET_DVR_StopListen_V30

Stop listening (supports multiple threads).

API Definition

```
BOOL NET_DVR_StopListen_V30(
  LONG   lListenHandle
);
```

Parameters

lListenHandle

Listening handle, which is returned by **NET_DVR_StartListen_V30** .

Return Values

Return *TRUE* for success, and return *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.
The available error codes of this API are 0, 3, 12, and 17. See details in the **Device Network SDK Errors** .

3.19 NET_DVR_Cleanup

Release the resources after the program is ended.

API Definition

```
BOOL NET_DVR_Cleanup(
);
```

Return Values

Returns *TURE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.
The available error codes may be returned by this API are 0 and 3. See details in **Device Network SDK Errors** .

Remarks

- When calling this API, you cannot call other APIs at the same time.
- **NET_DVR_Init** and this API should be called by pair. That is, once the NET_DVR_Init is called, you should call NET_DVR_Cleanup to release the resources when exiting the program.

3.20 NET_DVR_GetErrorMsg

Return the error information of the last operation.

API Definition

```
char *NET_DVR_GetErrorMsg(
 LONG   *pErrorNo
);
```

Parameters

pErrorNo

 [OUT] Error code pointer.

Return Values

The return values are the pointers of error information, see ***Device Network SDK Errors*** for details.

Remarks

You can call ***NET_DVR_GetLastError*** to get the error codes.

3.21 NET_DVR_GetLastError

Return the error code of the last operation.

API Definition

```
DWORD NET_DVR_GetLastError(
);
```

Return Values

The return values are error codes, see ***Device Network SDK Errors*** for details.

Remarks

You can also call ***NET_DVR_GetErrorMsg*** to directly get the error information.

3.22 NET_DVR_Init

Initialize the programming environment before calling other APIs.

API Definition

```
BOOL NET_DVR_Init(
);
```

Return Values

Returns *TURE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.
The available error codes of this API are 0, 41, and 53. See details in **Device Network SDK Errors** .

Remarks

Before initializing, you can call **NET_DVR_SetSDKInitCfg** to set the initialization parameters, such as supported capabilities, loading path of component libraries (only supported by Linux system), and so on.

See Also

NET_DVR_Cleanup

3.23 NET_DVR_Login_V40

Log in to the device (supports asynchronous login).

API Definition

```
LONG NET_DVR_Login_V40(
  NET_DVR_USER_LOGIN_INFO   pLoginInfo,
  NET_DVR_DEVICEINFO_V40   lpDeviceInfo
);
```

Parameters

pLoginInfo

[IN] Login parameters, including device address, user name, password, and so on. See details in the structure **NET_DVR_USER_LOGIN_INFO** .

lpDeviceInfo

[OUT] Device information. See details in the structure **NET_DVR_DEVICEINFO_V40** .

Return Values

- For asynchronous login, the callback function (**_fLoginResultCallBack_**) configured in the structure (**_NET_DVR_USER_LOGIN_INFO_**) returns the asynchronous login status, user ID and device information.
- For synchronous login, this API returns *-1* for logging failed, and returns other values for the returned user IDs. The user ID is unique, and it helps to realize the further device operations.
- If *-1* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.

Remarks

- When **bUseAsynLogin** in **pLoginInfo** is 0, it indicates that login is in synchronous mode; when **bUseAsynLogin** in **pLoginInfo** is 1, it indicates that login is in asynchronous mode.
- Up to 2048 users are allowed to log in to HCNetSDK at same time, and the values of returned **UserID** are ranging from 0 to 2047.

See Also

_NET_DVR_Logout_

3.23.1 fLoginResultCallBack

Login Status Callback Function

Member	Data Type	Description
lUserID	LONG	User ID, which is returned by **_NET_DVR_Login_V40_** .
dwResult	DWORD	Login status: 0-asynchronously logging in failed, 1-asynchronously logged in.
lpDeviceInfo	**_NET_DVR_DEVICEINFO _V40_**	Device information, such as serial No., channel, capability, and so on.
pUser	void*	User data.

3.24 NET_DVR_Logout

Log out from devices.

API Definitions

```
BOOL NET_DVR_Logout(
  LONG    lUserID
);
```

Parameters

lUserID

    [IN] User ID, which is returned by **_NET_DVR_Login_V40_** .

Return Values

Returns *TURE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **_NET_DVR_GetLastError_** to get the error code.
The available error codes may be returned by this API are 0, 3, 7, 8, 9, 10, 14, 17, 41, 44, 47, 72, and 73. See details in **_Device Network SDK Errors_** .

3.25 NET_DVR_SetSDKInitCfg

Set initialization parameters.

API Parameters

```
BOOL NET_DVR_SetSDKInitCfg(
  NET_SDK_INIT_CFG_TYPE    enumType,
  void* const            lpInBuff
);
```

Parameters

enumType

    [IN] Initialization parameter type. Different type values correspond to different parameters, see details in the table below.

Table 3-1 NET_SDK_INIT_CFG_TYPE

enumType	Value	Description	lpInBuff
NET_SDK_INIT_CFG_ ABILITY	1	Capability supported by SDK.	**_NET_DVR_INIT_CFG_A BILITY_**
NET_SDK_INIT_CFG_ SDK_PATH	2	Set loading path for component libraries (supported by both	**_NET_DVR_LOCAL_SDK _PATH_**

enumType	Value	Description	lpInBuff
		Linux and Windows system).	
NET_SDK_INIT_CFG_ LIBEAY_PATH	3	Set path (including library name) for libeay32.dll (Windows), libcrypto.so (Linux), and libcrypto.dylib (Mac) of OpenSSL in version 1.1.1 and 1.0.2.	Path in string format, e.g., *C:\\libeay32.dll*.
NET_SDK_INIT_CFG_ SSLEAY_PATH	4	Set path (including library name) for ssleay32.dll (Windows), libssl.so (Linux), libssl.dylib (Mac) of OpenSSL in version 1.1.1 and 1.0.2.	Path in string format, e.g., *C:\\ssleay32.dll*.

lpInBuff

[IN] Input parameter. Different parameter types correspond to different structures, see details in the table above.

Return Values

Returns *TURE* for success, and returns *FALSE* for failure.
If *FALSE* is returned, you can call **NET_DVR_GetLastError** to get the error code.

Remarks

This API should be called before calling **NET_DVR_Init** to initialize and check the dependent libraries or capabilities.

Appendix A. Data Structure

A.1 NET_DVR_FLASHSTORAGE_REMOVE

Parameter structure of clearing people counting data.

Structure Definition

```
struct{
 DWORD   dwSize;
 DWORD   dwChannel;
 BYTE    byPDCRemoveEnable;
 BYTE    byRes[127];
}NET_DVR_FLASHSTORAGE_REMOVE,*LPNET_DVR_FLASHSTORAGE_REMOVE;
```

Members

dwSize

Structure size

dwChannel

Channel No.

byPDCRemoveEnable

Whether to clear people counting data: 0-no, 1-yes

byRes

Reserved, set to 0.

Remarks

This function is mainly used to clear the people counting data stored in the device Flash.

A.2 NET_DVR_HANDLEEXCEPTION_V41

Exception Information Structure

Member	Data Type	Description
dwHandleType	DWORD	Handling types, see details below: • 0x00: no response • 0x01: display alarm on monitor screen • 0x02: audio warning • 0x04: upload to center

Member	Data Type	Description
		• 0x08: trigger alarm output • 0x10: send picture with JPEG format by e-mail • 0x20: trigger wireless sound and light alarm • 0x40: trigger e-map (supported by PCNVR only) • 0x200: capture picture and upload to FTP • 0x400: focus mode linkage (for defocus detection) • 0x800: PTZ linkage (speed dome tracks the target) • 0x1000: capture picture and upload to cloud storage. • 0x10000: message alarm E.g., if **dwHandleType** is 0x01|0x04, it indicates that the alarm information will be displayed on monitor screen and uploaded to alarm center when the alarm is triggered.
dwMaxAlarmOutChannelNum	DWORD	Manixmum number of alarm outputs (read only) supported by the device.
dwRelAlarmOut	Array of DWORD	Alarm output No. triggered by alarm, which starts from 0, 0xffffffff-invalid. E.g. **byRelAlarmOut**[i]==3 indicates that the alarm output No.4 is triggered.
byRes	Array of BYTE	Reserved, set to 0.

A.3 NET_DVR_MIME_UNIT

Input Content Details Structure of Message Transmission API (NET_DVR_STDXMLConfig)

Member	Data Type	Description
szContentType	Array of char	Content type (corresponds to **Content-Type** field in the message), e.g., text/json. text/xml,

Member	Data Type	Description
		and so on. The content format must be supported by HTTP.
szName	Array of char	Content name (corresponds to **name** field in the message), e.g., name="upload".
szFilename	Array of char	Content file name (corresponds to **filename** field in the message), e.g., filename="C:\Users\test\Desktop\11.txt".
dwContentLen	DWORD	Content size
pContent	char*	Data point
bySelfRead	BYTE	0-External file, 1-Internal data, whose address is specified by **szFilename**.
byRes	Array of BYTE	Reserved. Set to 0. Maximum: 15 bytes.

See Also

__NET_DVR_XML_CONFIG_INPUT__

A.4 NET_DVR_PDC_ALRAM_INFO

Alarm information structure of people counting statistics.

Structure Definition

```
struct{
 DWORD            dwSize;
 BYTE            byMode;
 BYTE            byChannel;
 BYTE            bySmart;
 BYTE            byRes1;
 NET_VCA_DEV_INFO        struDevInfo;
 union{
  struct{
   DWORD            dwRelativeTime;
   DWORD            dwAbsTime;
   BYTE            byTimeDiffFlag;
   signed char        cTimeDifferenceH;
   signed char        cTimeDifferenceM;
   BYTE            byRes[89];
  }struStatFrame;
  struct{
   NET_DVR_TIME        tmStart;
   NET_DVR_TIME        tmEnd;
```

```
    BYTE          byTimeDifferenceFlag;
    signed char      cStartTimeDifferenceH;
    signed char      cStartTimeDifferenceM;
    signed char      cStopTimeDifferenceH;
    signed char      cStopTimeDifferenceM;
    BYTE          byRes[87];
  }struStatTime;
}uStatModeParam;
DWORD          dwLeaveNum;
DWORD          dwEnterNum;
BYTE          byBrokenNetHttp;
BYTE          byRes3;
WORD           wDevInfoIvmsChannelEx;
DWORD           dwPassingNum;
DWORD           dwChildLeaveNum;
DWORD           dwChildEnterNum;
BYTE          byRes2[24];
}NET_DVR_PDC_ALRAM_INFO,*LPNET_DVR_PDC_ALRAM_INFO;
```

Members

dwSize

Structure size.

byMode

Statistics mode: 0-real-time people counting statistics, 1-periodic statistics, 2-statistics by sensor

byChannel

No. of alarm uploading channel.

bySmart

For intelligent device, return 0; and for smart device, return 1.

byRes1

Reserved, set to 0.

struDevInfo

Front-end device information, refer to the structure ***NET_VCA_DEV_INFO*** for details.

uStatModeParam

Statistics mode union, see details below.

struStatFrame

Real-time statistics, see details below.

dwRelativeTime

Time of UTC ± 00:00, which is valid only when the value of **byTimeDiffFlag** is "1".

dwAbsTime

Local time.

byTimeDiffFlag

Whether the time difference parameter is valid: 0-invalid, 1-valid.

cTimeDifferenceH

Time difference between time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byTimeDiffFlag** is "1".

cTimeDifferenceM

Time difference between time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byTimeDiffFlag** is "1".

byRes

Reserved, set to 0.

struStatTime

Start time information, see details below.

tmStart

Statistics start time, refer to the structure **_NET_DVR_TIME_** for details.

tmEnd

Statistics end time, refer to the structure **_NET_DVR_TIME_** for details.

byTimeDifferenceFlag

Whether the time difference parameter is valid: 0-invalid, 1-valid.

cStartTimeDifferenceH

Time difference between start time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byTimeDifferenceFlag** is "1".

cStartTimeDifferenceM

Time difference between start time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byTimeDifferenceFlag** is "1".

cStopTimeDifferenceH

Time difference between end time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byTimeDifferenceFlag** is "1".

cStopTimeDifferenceM

Time difference between end time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byTimeDifferenceFlag** is "1".

byRes

Reserved, set to 0.

dwLeaveNum

Number of people exited.

dwEnterNum

Number of people entered

byBrokenNetHttp

ANR flag bit: 0-non-ANR data, 1-ANR data

byRes3

Reserved

wDevInfoIvmsChannelEx

Extended the parameter **byIvmsChannel** in **_NET_VCA_DEV_INFO_** , its value range is extended.

dwPassingNum

Number of people passed.

dwChildLeaveNum

Number of exited children.

dwChildEnterNum

Number of entered children.

byRes2

Reserved

Remarks

- For real-time statistics (**byMode** is "0"), counting starts from the last clearing action (device reboot, manual clearing, or auto-clearing at 00:00), and the result will be updated once it changed.
- For periodic statistics (**byMode** is "0"), set the added number within the statistics period, and the update frequency is the configured statistics period (default: 15 minutes, minimum: 1 minute, maximum: 60 minutes).
- The algorithm of getting year/month/day/hour/minute/second analyzed froM the time value of DWORD type is shown as follows.

```
#define GET_YEAR(_time_)      (((_time_)>>26) + 2000)
#define GET_MONTH(_time_)     (((_time_)>>22) & 15)
#define GET_DAY(_time_)       (((_time_)>>17) & 31)
#define GET_HOUR(_time_)      (((_time_)>>12) & 31)
#define GET_MINUTE(_time_)    (((_time_)>>6) & 63)
#define GET_SECOND(_time_)    (((_time_)>>0) & 63)
```

A.5 NET_DVR_PDC_ENTER_DIRECTION

Counting statistics direction structure

Structure Definition

```
struct{
 NET_VCA_POINT   struStartPoint;
```

```
 NET_VCA_POINT    struEndPoint;
}NET_DVR_PDC_ENTER_DIRECTION, *LPNET_DVR_PDC_ENTER_DIRECTION;
```

Members

struStartPoint

Start point parameter, refer to the structure ***NET_VCA_POINT*** for details.

struEndPoint

End point parameter, refer to the structure ***NET_VCA_POINT*** for details.

A.6 NET_DVR_PDC_QUERY_COND

Condition structure of people counting data search.

Structure Definition

```
struct{
 DWORD          dwSize;
 DWORD          dwChannel;
 NET_DVR_TIME_EX   struStartTime;
 NET_DVR_TIME_EX   struEndTime;
 BYTE           byReportType;
 BYTE           byEnableProgramStatistics;
 BYTE           byTriggerPeopleCountingData;
 BYTE           byMultiChannelSearch;
 DWORD          dwPlayScheduleNo;
 BYTE           byISO8601;
 char           cStartTimeDifferenceH;
 char           cStartTimeDifferenceM;
 char           cStopTimeDifferenceH;
 char           cStopTimeDifferenceM;
 BYTE           byRes1[3];
 DWORD          dwSearchChannelNum;
 char           pSearchChannel;
 BYTE           byChild;
 BYTE           byMinTimeInterval;
 BYTE        byStatisticType;
 BYTE           byRes[101];
}NET_DVR_PDC_QUERY_COND, *LPNET_DVR_PDC_QUERY_COND;
```

Members

dwSize

Structure size

dwChannel

Channel No.

struStartTime

Start time of search, see details in structure ***NET_DVR_TIME_EX*** .

struEndTime

End time of search, see details in structure ***NET_DVR_TIME_EX*** .

byReportType

Report type: 0-invalid, 1-daily, 2-weekly, 3-monthly, 4-anual

byEnableProgramStatistics

Whether to count by program: 0-no, 1-yes

byTriggerPeopleCountingData

Whether to enable people counting data search: 0-no, 1-yes

byMultiChannelSearch

Whether to enable searching in multiple channels: 0-no, 1-yes

dwPlayScheduleNo

Linked plan No. for statistics by program.

byISO8601

Whether the time is in ISO8601 format, i.e., whether the time difference is valid. 0-invalid, the time is device local time, 1-valid.

cStartTimeDifferenceH

Time difference between start time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

cStartTimeDifferenceM

Time difference between start time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

cStopTimeDifferenceH

Time difference between stop time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

cStopTimeDifferenceM

Time difference between stop time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

byRes1

Reserved

dwSearchChannelNum

Number of channels to search

pSearchChannel

Search channel No.

byChild

Whether to detect children only: 0-no, 1-yes.

byMinTimeInterval

Minimum time interval: 0-invalid, 1-15 minutes, 2-30 minutes, 3-one hour, 4-one day, 5-one week, 6-one month.

byStatisticType

Counting type: 0-invalid, 1-by entered people, 2-by exited people, 3-all.

byRes

Reserved.

Remarks

Search end time is used for simple verification such as "if the start time is earlier than end time". The search time period is subject to start time and search mode, for example, if the start date is July 1st and the end date is August 1st, and the search mode is weekly, then the device will search the information between July 1st and July 7th.

A.7 NET_DVR_PDC_RESULT

Result structure of people counting data search.

Structure Definition

```
struct{
  DWORD            dwSize;
  NET_DVR_TIME_EX      struStartTime;
  NET_DVR_TIME_EX      struEndTime;
  DWORD            dwEnterNum;
  DWORD            dwLeaveNum;
  NET_DVR_PROGRAM_INFO   struProgramInfo;
  DWORD            dwPeoplePassing;
  DWORD            dwStruLen;
  char          pStruInfo;
  BYTE            byISO8601;
  char          cStartTimeDifferenceH;
  char          cStartTimeDifferenceM;
  char          cStopTimeDifferenceH;
  char          cStopTimeDifferenceM;
  BYTE            byRes[187];
}NET_DVR_PDC_RESULT, *LPNET_DVR_PDC_RESULT;
```

Members

dwSize

Structure size.

struStartTime

Start time

struEndTime

End time

dwEnterNum

Number of entered people.

dwLeaveNum

Number of exited people.

struProgramInfo

Program information, see details in the structure ***NET_DVR_PROGRAM_INFO*** .

dwPeoplePassing

Number of passed people.

dwStruLen

Data size.

pStruInfo

Information structure pointer.

byISO8601

Whether the time is in ISO8601 format, i.e., whether the time difference is valid. 0-invalid, the time is device local time, 1-valid.

cStartTimeDifferenceH

Time difference between start time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

cStartTimeDifferenceM

Time difference between start time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

cStopTimeDifferenceH

Time difference between stop time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

cStopTimeDifferenceM

Time difference between stop time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".

byRes

Reserved

A.8 NET_DVR_PDC_RULE_CFG_V42

Configuration parameter structure of people counting rule

Structure Definition

```
struct{
 DWORD              dwSize;
 BYTE               byEnable;
 BYTE               byOSDEnable;
 BYTE               byCurDetectType;
 BYTE               byInterferenceSuppression;
 NET_VCA_POINT           struOSDPoint;
 BYTE               byDataUploadCycle;
 BYTE               bySECUploadEnable;
 BYTE               byEmailDayReport;
 BYTE               byEmailWeekReport;
 BYTE               byEmailMonthReport;
 BYTE               byEmailYearReport;
 BYTE               byRes2[6];
 NET_VCA_POLYGON          struPolygon;
 NET_DVR_PDC_ENTER_DIRECTION   struEnterDirection;
 NET_DVR_SCHEDTIME         struAlarmTime[MAX_DAYS/*7*/][MAX_TIMESEGMENT_V30/*8*/];
 NET_DVR_TIME_EX          struDayStartTime;
 NET_DVR_TIME_EX          struNightStartTime;
 NET_DVR_HANDLEEXCEPTION_V41   struAlarmHandleType;
 BYTE               byDetecteSensitivity;
 BYTE               byGenerateSpeedSpace;
 BYTE               byGenerateSpeedTime;
 BYTE               byCountSpeed;
 BYTE               byDetecteType;
 BYTE               byTargetSizeCorrect;
 BYTE               byStreamOverlayRuleInfos;
 BYTE               byRes3;
 NET_VCA_LINE           struLine;
 BYTE               byHeightFilterEnable;
 BYTE               byRes4[3];
 float              fHeightFilter;
 BYTE               byCalibrateType;
 BYTE               byCountingType;
 BYTE               bySignalType;
 BYTE               byRS485TransmissionEnabled;
 float              fTiltAngle;
 float              fHeelAngle;
 float              fHeight;
 NET_VCA_POLYGON          struCountPolygon;
 NET_VCA_POLYGON          struAutoCalibPolygon;
 NET_DVR_TIME_EX          struDailyResetTime;
 NET_VCA_POLYLINE         struPolyLine;
```

```
  BYTE              byRes[4];
}NET_DVR_PDC_RULE_CFG_V42,*LPNET_DVR_PDC_RULE_CFG_V42;
```

Members

dwSize

Structure size.

byEnable

Whether to enable people counting: 0-no, 1-yes

byOSDEnable

Whether to enable display people counting information on picture: 0- no, 1-yes, 2-display number of entered people only, 3-display number of exited people only, 4-display number of passed people, 5-display number of entered and passed people.

byCurDetectType

Current detection region type: 0-polygon, 1-detection line, 2-detection polyline.

byInterferenceSuppression

Jamming type and status (represented by byte): bit0-shadow, bit1-loitering, bit2-trolley, value: 0-disable, 1-enable. For example: if **byInterferenceSuppression**==7 (111 in binary), it indicates shadow, loitering, and trolley jamming are all enabled.

struOSDPoint

Upper-left vertex coordinates of the information display position on people counting statistics picture, refer to the structure ***NET_VCA_POINT*** for details.

byDataUploadCycle

Time interval for uploading people counting data: 0-15 minutes, 1-1 minute, 2-5 minutes, 3-10 minutes, 4-20 minutes, 5-30 minutes, 6-60 minutes.

bySECUploadEnable

Whether to enable uploading by second: 0-no, 1-yes.

byEmailDayReport

Whether to enable uploading people counting daily report by email: 0-no, 1-yes.

byEmailWeekReport

Whether to enable uploading people counting weekly report by email: 0-no, 1-yes.

byEmailMonthReport

Whether to enable uploading people counting monthly report by email: 0-no, 1-yes.

byEmailYearReport

Whether to enable uploading people counting annual report by email: 0-no, 1-yes.

byRes2

Reserved, set to 0.

struPolygon

Polyson region, it is valid when **byCurDetectType** is 0. Refer to the structure ***NET_VCA_POLYGON*** for details.

struEnterDirection

Entering direction, refer to the structure ***NET_DVR_PDC_ENTER_DIRECTION*** for details.

struAlarmTime

Arming schedule, refer to the structure ***NET_DVR_SCHEDTIME*** for details.

struDayStartTime

Start time of day, unit: hour, minute, second, refer to the structure ***NET_DVR_TIME_EX*** for details.

struNightStartTime

Start time of night, unit: hour, minute, second, refer to the structure ***NET_DVR_TIME_EX*** for details.

struAlarmHandleType

Alarm linkage action types, refer to the structure ***NET_DVR_HANDLEEXCEPTION_V41*** for details. Here, only the "center" (upload to center) is supported.

byDetecteSensitivity

Detection sensitivity, whose value is between 1 and 100, the default value is 50.

byGenerateSpeedSpace

Target generation speed in space, whose value is between 1 and 100, the default value is 50.

byGenerateSpeedTime

Target generation speed in time, whose value is between 1 and 100, the default value is 50.

byCountSpeed

Counting speed, whose value is between 1 and 100, the default value is 50.

byDetecteType

Target detection type: 0-auto, 1-head, 2-head and shoulder, the default is 0.

byTargetSizeCorrect

Target size correction, whose value is between 1 and 100, the default value is 50.

byStreamOverlayRuleInfos

Whether to display VCA information on stream: 0-no, 1-yes.

byRes3

Reserved, set to 0.

struLine

Detection line, it is valid when **byCurDetectType** is 1. Refer to the structure ***NET_VCA_LINE*** for details.

byHeightFilterEnable

Whether to enable height filtering: 0-no, 1-yes

byRes4

Reserved, set to 0

fHeightFilter

Filtered height, it is valid when **byHeightFilterEnable** is 1, unit: cm, default: 120 cm, range: 40 to 200 cm.

byCalibrateType

Calibration type: 0-not calibrate, 1-auto, 2-manual

byCountingType

Counting trigger mode: 0-none, 1-alarm input triggered, 2-VCA triggered.

bySignalType

Signal types: 0-level (connect to alarm input 1, set to remain open mode, high level indicates opening door, low level indicates closing door); 1-pulse (connect to alarm input 1 (opening door) and alarm input 2 (closing door), set to remain open mode, rising edge will be detected, at least 10 ms duration are required).

byRS485TransmissionEnabled

Whether to enable RS-485 transmission: 0-no, 1-yes

fTiltAngle

Angle of pitch, unit: degree, default: 0, range: 0 to 180, read only.

fHeelAngle

Angle of roll, unit: degree, default: 0, range: -90 to 90, read only.

fHeight

Calibrated height (the distance between camera lens and ground), unit: cm, default: 300, range: 200 to 500, it can be set only when **byCalibrateType** is 2, otherwise, this parameter is read-only.

struCountPolygon

Counting region, read-only, refer to the structure **_NET_VCA_POLYGON_** for details.

struAutoCalibPolygon

Automatically calibrated region (for people counting function in vehicle-mounted device, this parameter indicates the pedal area), it is valid when **byCalibrateType** is 1. Refer to the structure **_NET_VCA_POLYGON_** for details.

struDailyResetTime

Clearing schedule (clear the displayed people counting information, by default, the information will be cleared at 00:00). Refer to the structure **_NET_DVR_TIME_EX_** for details.

struPolyLine

Detection polyline, it is valid when **byCurDetectType** is 2. Refer to the structure **_NET_VCA_POLYLINE_** for details.

byRes

Reserved, set to 0.

A.9 NET_DVR_PDC_RULE_COND

Configuration condition structure of people counting rule.

Structure Definition

```
struct{
 DWORD   dwSize;
 DWORD   dwChannel;
 BYTE    byRes[64];
}NET_DVR_PDC_RULE_COND, *LPNET_DVR_PDC_RULE_COND;
```

Members

dwSize

Structure size.

dwChannel

Channel No.

byRes

Reserved, set to 0.

A.10 NET_DVR_POSINFO_OVERLAY

Text overlay parameter structure

Structure Definition

```
struct{
 DWORD   dwSize;
 BYTE    byEnable;
 BYTE    byBackpackEnanble;
 BYTE    bySexEnanble;
 BYTE    byCarryEnanble;
 BYTE    byRideEnanble;
 BYTE    byMaskEnanble;
 BYTE    byHatEnanble;
 BYTE    bySleeveEnanble;
 BYTE    byPantsTypeEnanble;
 BYTE    byHairEnanble;
```

```
BYTE    byGlassesEnanble;
BYTE    byAgeEnanble;
BYTE    byHeightEnanble;
BYTE    byRes[511];
}NET_DVR_POSINFO_OVERLAY,*LPNET_DVR_POSINFO_OVERLAY;
```

Members

dwSize

Structure size.

byEnable

whether to enable text overlay: 0-no, 1-yes.

byBackpackEnanble

whether to enable backpack information overlay: 0-no, 1-yes.

bySexEnanble

whether to enable gender information overlay: 0-no, 1-yes.

byCarryEnanble

whether to enable carrying information overlay: 0-no, 1-yes.

byRideEnanble

whether to enable riding information overlay: 0-no, 1-yes.

byMaskEnanble

whether to enable wearing mask information overlay: 0-no, 1-yes.

byHatEnanble

whether to enable wearing hat information overlay: 0-no, 1-yes.

bySleeveEnanble

whether to enable tops information overlay: 0-no, 1-yes.

byPantsTypeEnanble

whether to enable overlay bottoms information overlay: 0-no, 1-yes.

byHairEnanble

whether to enable hair information overlay: 0-no, 1-yes.

byGlassesEnanble

Whether to enable wearing glasses information overlay: 0-no, 1-yes.

byAgeEnanble

whether to enable age information overlay: 0-no, 1-yes.

byHeightEnanble

whether to enable stature information overlay: 0-no, 1-yes.

byRes

Reserved, set to 0.

A.11 NET_DVR_PROGRAM_INFO

Program information structure

Structure Definition

```
struct{
 DWORD    dwProgramNo;
 BYTE     sProgramName[NAME_LEN/*32*/];
 BYTE     byRes[16];
}NET_DVR_PROGRAM_INFO, *LPNET_DVR_PROGRAM_INFO;
```

Members

dwProgramNo

Program No.

sProgramName

Program name

byRes

Reserved, set to 0

A.12 NET_DVR_RECORD_PASSBACK_MANUAL_COND

Structure About Conditions of Getting Task of Manually Copying Back Videos

Member	Data Type	Description
dwSize	DWORD	Structure size.
byType	BYTE	Method of getting the task information: 0 (get remaining tasks), 1 (get remaining tasks by stream ID), 2 (get all tasks), 3 (get all tasks by stream ID).
byRes1	BYTE	Reserved, set to 0. The size is 3 bytes.
struStreamInfo	***NET_DVR_STREAM_INFO***	Stream information structure. This member is valid when getting the task information by stream ID.
byRes	Array of BYTE	Reserved, set to 0. The size is 128 bytes.

A.13 NET_DVR_RECORD_PASSBACK_MANUAL_TASK_RET

Structure About Results of Getting Task of Manually Copying Back Videos

Member	Data Type	Description
dwSize	DWORD	Structure size.
struStreamInfo	***NET_DVR_STREAM_INFO***	Stream information structure. This member is valid when getting the task information by stream ID.
dwTaskID	DWORD	Task ID
struStartTime	***NET_DVR_TIME_EX***	Start time of video copy-back
struStopTime	***NET_DVR_TIME_EX***	End time of video copy back
byTaskStatus	BYTE	Task status: 0 (not executed), 1 (pausing), 2 (executed), 3 (copying back), 4 (copy-back failed), 5 (succeeded, but only some videos are copied back), 6 (succeeded, but there is no video in the camera).
byRes1	Array of BYTE	Reserved, set to 0. The size is 3 bytes.
struExecuteStartTime	***NET_DVR_TIME_EX***	Actual start time of executing the task. This member is valid when the value of **byTaskStatus** is 1 or 2.
struExecuteStopTime	***NET_DVR_TIME_EX***	Actual end time of executing the task. This member is valid when the value of **byTaskStatus** is 1 or 2.
byRes	Array of BYTE	Reserved, set to 0. The size is 128 bytes.

A.14 NET_DVR_RESET_COUNTER_CFG

Parameter structure of statistics data clearing.

Structure Definition

```
struct{
  DWORD       dwSize;
  BYTE        byEnable;
  BYTE        byMode;
  BYTE        byRes1[2];
```

```
 NET_DVR_TIME_EX   struTime[MAX_DAYS/*7*/];
 BYTE          byRes[64];
}NET_DVR_RESET_COUNTER_CFG,*LPNET_DVR_RESET_COUNTER_CFG;
```

Members

dwSize

Structure size.

byEnable

Whether to enable statistics data clearing: 0-no, 1-yes.

byMode

Clearing mode: 0-scheduled, 1-manual.

byRes1

Reserved, set to 0.

struTime

Data cleared time, unit: hour, minute, second

byRes

Reserved, set to 0.

Remarks

When the clearing mode is 0, the device will automatically the data at the configured time point; when the clearing mode is 1, you should call clearing API to clear the data.

A.15 NET_DVR_SCHEDTIME

Structure About Start and End Time Parameters

Member	Data Type	Description
byStartHour	BYTE	Start time: hour.
byStartMin	BYTE	Start time: minute.
byStopHour	BYTE	End time: hour.
byStopMin	BYTE	End time: minute.

A.16 NET_DVR_STD_CONFIG

Structure About Configuring Input and Output Parameters

Member	Data Type	Description
lpCondBuffer	LPVOID	Condition parameters, e.g., channel No., it can be set to "NULL".
dwCondSize	DWORD	Size of buffer for storing condition parameters
lpInBuffer	LPVOID	Input parameters (a structure)
dwInSize	DWORD	Size of buffer for storing input parameters
lpOutBuffer	LPVOID	Output parameters (a structure)
dwOutSize	DWORD	Size of buffer for storing output parameters
lpStatusBuffer	LPVOID	Returned status parameters in XML format, it can be set to NULL.
dwStatusSize	DWORD	Size of buffer for storing status parameters
lpXmlBuffer	LPVOID	Request or response message in XML format, it is valid when **byDataType** is 1.
dwXmlSize	DWORD	Size of memory pointed by **lpXmlBuffer**.
byDataType	BYTE	Input or output parameter type: 0-valid when the input or output parameters is a structure; 1-valid when the input or output parameters is a XML message.
byRes	Array [BYTE]	Reserved, set to 0. The maximum size is 32 bytes.

A.17 NET_DVR_STD_CONTROL

Input and output parameters structure of remote control.

Structure Definition

```
struct{
 LPVOID              lpCondBuffer;
 DWORD               dwCondSize;
 LPVOID              lpStatusBuffer;
 DWORD               dwStatusSize;
 BYTE                byRes[64];
}NET_DVR_STD_CONTROL, *LPNET_DVR_STD_CONTROL;
```

Members

lpCondBuffer

Condition parameters (returned in structure or message), such as channel No., it can be set to null.

dwCondSize

Buffer size of condition parameters.

lpStatusBuffer

Status parameters (returned in **_XML_ResponseStatus_**), if control completed, this parameter will not be assigned, and it can be set to null if not required.

dwStatusSize

Buffer size of status parameter.

lpXmlBuffer

Data with XML format, it is valid only when **byDataType** is 1.

dwXmlSize

Size of data with XML format, when the control command is getting, it is the input and output parameters, and after getting completed, actual size will be returned; when setting, the actual data size equals to strlen((char*) lpXmlBuffer).

byDataType

Input or output parameter type: 0-structure, 1-message

byRes

Reserved, set to 0.

Remarks

For different control function (refers to the parameter **dwCommand** in the API **_NET_DVR_STDControl_**), the **lpCondBuffer** in this structure are different, see details in the typical applications.

A.18 NET_DVR_STREAM_INFO

Stream information structure.

Structure Definition

```
struct{
 DWORD   dwSize;
 BYTE    byID[STREAM_ID_LEN/*32*/];
 DWORD   dwChannel;
 BYTE    byRes[32];
}NET_DVR_STREAM_INFO,*LPNET_DVR_STREAM_INFO;
```

Members

dwSize

Structure size.

byID

Stream ID, which consists of letters, digits, and dashes, 0-invalid.

dwChannel

Linked device channel. When it is 0xffffffff, if setting the stream source, this parameter indicates that no device channel is linked; if setting configuration condition, this parameter is invalid.

byRes

Reserved, set to 0.

Remarks

- If the device does not support marking stream ID, e.g., DVR, the parameter **byID** should be set to 0.
- For transcoder, when setting the stream source, only one of **byID** and **dwChannel** can be valid; when transcoding, both the **byID** and **dwChannel** can be invalid, the transcoding channel or stream ID is automatically allocated by device.
- For other devices (e.g., CVR), when this structure is inputted as configuration condition, if both the **byID** and **dwChannel** are invalid, error code (17) will be returned, if they are valid, but mismatched, error may also be returned, so only setting one of these two parameters is suggested.

A.19 NET_DVR_XML_CONFIG_INPUT

Input Parameter Structure of Message Transmission API (NET_DVR_STDXMLConfig)

Member	Data Type	Description
dwSize	DWORD	Structure size.
lpRequestUrl	void*	Request URL (command) for implement different functions, and it is in string format.
dwRequestUrlLen	DWORD	Request URL size.
lpInBuffer	void*	Buffer for storing input parameters (request messages), see the input content details structure in *__NET_DVR_MIME_UNIT__* .
dwInBufferSize	DWORD	Input buffer size.

Member	Data Type	Description
dwRecvTimeOut	DWORD	Receiving timeout, unit: ms, 0-5000ms (default).
byForceEncrpt	BYTE	Whether to enable force encryption (the messages will be encrypted by AES algorithm for transmission): 0-no, 1-yes.
byNumOfMultiPart	BYTE	Number of message segments: 0-invalid; other values-number of message segments, which is transmitted by the parameter **lpInBuffer** in the structure *NET_DVR_MIME_UNIT* .
byRes	Array of BYTE	Reserved, set to 0.

Related API

NET_DVR_STDXMLConfig

A.20 NET_DVR_XML_CONFIG_OUTPUT

Output Parameter Structure of Message Transmission API (NET_DVR_STDXMLConfig)

Member	Data Type	Description
dwSize	DWORD	Structure size.
lpOutBuffer	void*	Buffer for storing output parameters (response messages), which is allocated when passing through URL by GET method.
dwOutBufferSize	DWORD	Output buffer size.
dwReturnedXMLSize	DWORD	Actual size of response message.
lpStatusBuffer	void*	Response status (ResponseStatus message). This parameter will not be assigned if performing GET operation succeeded, and you can also set it to "NULL" if not required.
dwStatusSize	DWORD	Size of response status buffer.
lpDataBuffer	HPR_VOIDPTR	Buffer for transmitted data. This parameter is valid when the value of **byNumOfMultiPart** is larger than 0.

Member	Data Type	Description
byNumOfMultiPart	HPR_UINT8	Number of parts that the message is divided into.
byRes [23]	BYTE	Reserved, set to 0.

Related API

NET_DVR_STDXMLConfig

A.21 NET_SDK_CALLBACK_STATUS_NORMAL

Enumeration About Persistent Connection Status

Enumeration Type	Marco Definition Value	Description
NET_SDK_CALLBACK_STATUS_ SUCCESS	1000	Succeeded.
NET_SDK_CALLBACK_STATUS_ PROCESSING	1001	Connecting. The **lpBuffer** is 4-byte status.
NET_SDK_CALLBACK_STATUS_ FAILED	1002	Failed. The **lpBuffer** is the value of 4-byte status and 4-byte error code.

A.22 NET_VCA_DEV_INFO

Structure About Camera Information

Member	Data Type	Description
struDevIP	*NET_DVR_IPADDR_UNION*	Device IP address
wPort	WORD	Device port No.

Member	Data Type	Description
byChannel	BYTE	Device channel No.
byIvmsChannel	BYTE	Device channel No. for the HCNetSDK to access the device.

Remarks

When accessing to device A, see the following figure for details.
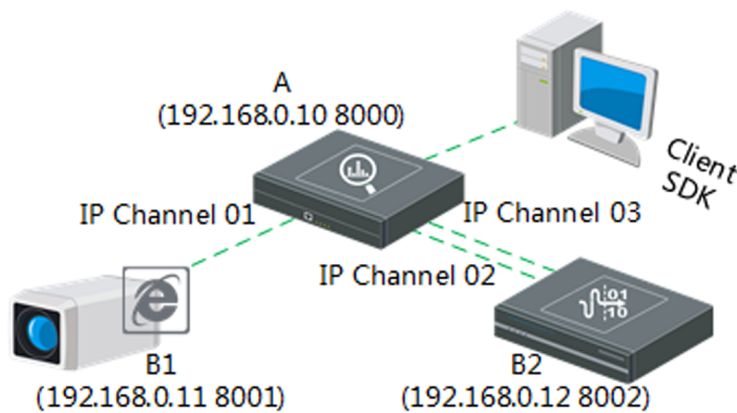
- When the analog channel alarm of connected device (IPC, DVR, DVS, iVMS) is triggered, **struDevIP** and **wPort** are the IP address and port No. of connected device; **byChannel** and **byIvmsChannel** are both the alarm analog channel No.
- When the digital channel (IP channel) alarm of connected device (HDVR, NVR, iVMS) is triggered, **struDevIP**, **wPort and byChannel** are the IP address, port No., and channel No. of connected device, respectively; **byIvmsChannel** is the digital channel. In the above figure, the channel No.1 of device B1 and the channel No.1, 2 of device B2 are used as channel No.1, 2, 3 of the connected device A; **struDevIP**, **wPort**, and **byChannel** are the IP address, port No. and channel No. of B1 or B2; **byIvmsChannel** is the digital channel No. of device A. E.g., if the behavior analysis alarm of channel No.2 of device B2 is triggered, **struDevIP** is 192.168.0.12, **wPort** is 8002, **byChannel** is 2 and **byIvmsChannel** is 3 in the received alarm message.

A.23 NET_VCA_LINE

Structure about line parameters.

Structure Definition

```
struct{
 NET_VCA_POINT    struStart;
 NET_VCA_POINT    struEnd;
}NET_VCA_LINE,*LPNET_VCA_LINE;
```

Members

struStart

Start point, see details in the structure **_NET_VCA_POINT_**

struEnd

End point, see details in the structure **_NET_VCA_POINT_** .

A.24 NET_VCA_POINT

Structure About Point Coordinates Parameters

Member	Data Type	Description
fX	float	X-coordinate, it is a normalized value ranging from 0.000 to 1. The floating-point number is the percentage of the current image size and is accurate to three decimal places.
fY	float	Y-coordinate, it is a normalized value ranging from 0.000 to 1. The floating-point number is the percentage of the current image size and is accurate to three decimal places.

A.25 NET_VCA_POLYGON

Polygon Coordinate Parameter Structure

Member	Data Type	Description
dwPointNum	DWORD	Valid point (larger than or equal 3), if 3 points are in the same line, as well as line-cross, region is invalid.
struPos	Array of **_NET_VCA_POINT_**	Boundary point of polygon, up to 10 points

A.26 NET_VCA_POLYLINE

Polyline parameter structure

Structure Definition

```
struct{
 NET_VCA_POINT   struPoint[4];
}NET_VCA_POLYLINE,*LPNET_VCA_POLYLINE;
```

Members

struPoint

Coordinates of points on the polyline, refer to the structure **_NET_VCA_POINT_** for details.

A.27 NET_ALARM_CVR_SUBINFO_UNION

Union about CVR Alarm Information

Member	Data Type	Description
byLen	BYTE[]	Union size, the maximum array length is 492 bytes.
struRecordLost	**_NET_ALARM_RECORD FILE_LOSS_**	Video loss alarm information, the value of **dwAlarmType** in **_NET_DVR_ALARMINFO_DEV_V40_** is 8.
struStreamException	**_NET_ALARM_STREAM _EXCEPTION_**	Streaming exception alarm information, the value of **dwAlarmType** in **_NET_DVR_ALARMINFO_DEV_V40_** is 9.
struResourceUsage	**_NET_ALARM_RESOUR CE_USAGE_**	Resource usage alarm information, the value of **dwAlarmType** in **_NET_DVR_ALARMINFO_DEV_V40_** is 10.
struRecordException	**_NET_ALARM_RECORD _EXCEPTION_**	Recording exception alarm information, the value of **dwAlarmType** in **_NET_DVR_ALARMINFO_DEV_V40_** is 12.

A.28 NET_ALARM_RECORD_EXCEPTION

Structure about Recording Exception Alarm Information

Member	Data Type	Description
byReason	BYTE	Exception reason: 0-video volume full, 1-video volume exception, 2-no available video volume.
byRes1	BYTE[]	Reserved, set to 0. The maximum array length is 3 bytes.
sVolumeName	BYTE[]	Video volume name, the maximum array length is "MAX_VOLUMENAME_LEN" (32 bytes).
dwVolumeID	DWORD	Video volume ID, or HDD No.
byRes	BYTE[]	Reserved, set to 0. The maximum array length is 452 bytes.

A.29 NET_ALARM_RECORDFILE_LOSS

Structure about Video Loss Alarm Information

Member	Data Type	Description
struInspectStart	*NET_DVR_TIME_EX*	Start time of video loss check.
struInspectEnd	*NET_DVR_TIME_EX*	End time of video loss check.
struIP	*NET_DVR_IPADDR_UNION*	IP address of video loss channel.
dwChanNo	DWORD	Channel No.
dwIDIndex	DWORD	Encoder ID.
sName	BYTE[]	Encoder name, the maximum array length is "STREAM_ID_LEN" (32 bytes).
struLossStartTime	*NET_DVR_TIME_EX*	Start time of video loss.
struLossEndTime	*NET_DVR_TIME_EX*	End time of video loss.
dwLostNum	DWORD	Number of lost video files, 0xffffffff-all video files are lost.
byRes	BYTE[]	Reserved, set to 0. The maximum array length is 240 bytes.

A.30 NET_ALARM_RESOURCE_USAGE

Structure about Resource Usage Alarm Information

Member	Data Type	Description
byLevel	BYTE	Usage alarm level: 0-normal, 1-alarm level 1, 2-alarm level 2, 3-alarm level 3.
byRes	BYTE[]	Reserved, set to 0. The maximum array length is 491 bytes.

A.31 NET_ALARM_STREAM_EXCEPTION

Structure about Video Exception Alarm Information

Member	Data Type	Description
struIP	***NET_DVR_IPADDR_UNION***	IP address of video exception channel.
dwChanNo	DWORD	Channel No.
dwIDIndex	DWORD	Encoder ID.
sName	BYTE[]	Encoder name, the maximum array length is "STREAM_ID_LEN" (32 bytes).
byExceptionCase	BYTE	Exception reason: 0-data writing exception, 1-network exception.
byRes	BYTE[]	Reserved, set to 0. The maximum array length is 307 bytes.

A.32 NET_DVR_ALARMER

Alarm Device Information Structure

Member	Data Type	Description
byUserIDValid	BYTE	Whether the user ID is valid: 0-no, 1-yes
bySerialValid	BYTE	Whether the serial No. is valid: 0-no, 1-yes
byVersionValid	BYTE	Whether the version No. is valid: 0-no, 1-yes
byDeviceNameValid	BYTE	Whether the device name is valid: 0-no, 1-yes
byMacAddrValid	BYTE	Whether the MAC address is valid: 0-no, 1-yes
byLinkPortValid	BYTE	Whether the login port No. is valid: 0-no, 1-yes
byDeviceIPValid	BYTE	Whether the device IP address is valid: 0-no, 1-yes
bySocketIPValid	BYTE	Whether the Socket IP address is valid: 0-no, 1-yes
lUserID	LONG	Value returned by **_NET_DVR_Login_V40_** , it is valid when arming.
sSerialNumber	Array of BYTE	Serial No.
dwDeviceVersion	DWORD	Version information
sDeviceName	Array of char	Device name
byMacAddr	Array of BYTE	MAC address
wLinkPort	WORD	Device communication port No.
sDeviceIP	Array of char	Device IP address
sSocketIP	Array of char	Socket IP address when actively uploading alarm.
byIpProtocol	BYTE	Network protocol: 0-IPv4, 1-IPv6
byRes2	Array of BYTE	Reserved, set to 0.

A.33 NET_DVR_ALARMINFO_DEV

Device Alarm Information Structure

Memeber	Data Type	Description
dwAlarmType	DWORD	Alarm types: 0-alarm input alarm of encoder, 1-second private volume damaged, 2-NVR disconnected, 3-encoder exception, 4-system clock exception, 5-the remaining capacity of the recording volume is too low, 6-motion detection alarm of encoder or encoding channel, 7-video tampering alarm of encoder or encoding channel.
struTime		Alarm time
byRes	Array of BYTE	Reserved, set to 0.
dwNumber	DWORD	Number of alarm triggered channels.
pNO	WORD*	Channel No. or disk No., which ranges from 0 to 65535.

Remarks

For **pNO**: if **dwAlarmType** is 0, 3, 6, or 7, it may be channel No.; if **dwAlarmType** is 5, it may be disk No.

A.34 NET_DVR_ALARMINFO_DEV_V40

Structure about CVR Alarm Information

Member	Data Type	Description
dwAlarmType	DWORD	Alarm categories: 0-alarm input alarm of encoder, 1-second private volume damaged, 2-NVR disconnected, 3-encoder exception, 4-system clock exception, 5-the remaining capacity of the recording volume is too low, 6-motion detection alarm of encoder or encoding channel, 7-video tampering alarm of encoder or encoding channel, 8-video loss alarm, 9-real-time health monitoring alarm, 10-usage alarm,

Member	Data Type	Description
		11-CVR exception recovered, 12-recording exception.
struTime	*NET_DVR_TIME*	Alarm time
uSubAlarmInfo	*NET_ALARM_CVR_SUBINFO_UNION*	CVR alarm information structure, and it is valid when the alarm type is 8, 9, 10, and 12.
byRes	Array of BYTE	Reserved, set to 0. The maximum size is 256 bytes.
dwNumber	DWORD	Number of alarm triggered channels.
pNO	WORD*	Channel No. or disk No., which ranges from 0 to 65535.

Remarks

For **pNO**: if **dwAlarmType** is 0, 3, 6, or 7, it may be channel No.; if **dwAlarmType** is 5, it may be disk No.

A.35 NET_DVR_ALARMINFO_V30

Structure About Uploaded Alarm Information

Member	Data Type	Description
dwAlarmType	DWORD	Alarm types: 0-alarm input alarm of encoder, 1-second private volume damaged, 2-NVR disconnected, 3-encoder exception, 4-system clock exception, 5-the remaining capacity of the recording volume is too low, 6-motion detection alarm of encoder or encoding channel, 7-video tampering alarm of encoder or encoding channel, 8-video loss alarm, 9-real-time health monitoring alarm, 10-usage alarm, 11-CVR exception recovered, 12-recording exception.
dwAlarmInputNumber	DWORD	Alarm input No., it is valid when alarm type is 0 or 23
byAlarmOutputNumber	Array of BYTE	The triggered alarm output No. E.g. dwAlarmOutputNumber[0]==1 indicates that

Member	Data Type	Description
		alarm output No.1 is triggered; dwAlarmOutputNumber[1]==1 indicates that alarm output No.2 is triggered.
byAlarmRelateChannel	Array of BYTE	The triggered recording channel No.: 0-not triggered, 1-triggered. E.g. dwAlarmRelateChannel[0]==1 indicates that the channel No.1 is triggered to record.
byChannel	Array of BYTE	Alarm channel, it is valid when alarm type is 2, 3, 6, 9, 10 or 11. E.g. dwChannel[0]==1 indicates that the channel No. is in alarm.
byDiskNumber	Array of BYTE	Alarm HDD, it is valid when alarm type is 1, 4, or 5. E.g. dwDiskNumber [0]==1 indicates that the HDD No.1 is abnormal.

Remarks

The time interval to upload the alarm of face picture library changed is 1 hour; for other alarm type, the alarm information is uploaded in real-time, and the time interval is 1s. Currently, editing the time interval is not supported.

A.36 NET_DVR_ALARMINFO_V40

Structure About Uploaded Alarm Information

Member	Data Type	Description
struAlarmFixedHeader	*NET_DVR_ALRAM_FIXED_HEADER*	Constant content in alarm information, see details in the structure .
pAlarmData	DWORD*	Variable content in alarm information

Remarks

- The time interval to upload the alarm of face picture library changed is 1 hour; for other alarm type, the alarm information is uploaded in real-time, and the time interval is 1s. Currently, editing the time interval is not supported.
- The content of **pAlarmData** varies with the value of **dwAlarmType** in the structure *NET_DVR_ALRAM_FIXED_HEADER* , see details in the table below:

Table A-1 Relations Between pAlarmData and dwAlarmType

dwAlarmType	Description	pAlarmData
0, 23	Alarm input alarm, pulse alarm	dwTrigerAlarmOutNum*(DWORD) Alarm output No., +dwTrigerRecordChanNum*(DWORD) Channel No.
2, 3, 6, 9, 10, 11, 13, 15, 16, 19	Video loss, motion detection, video tampering alarm, video exception, recording exception, scene change, resolution mismatched, VCA detection, PoE power supply exception, audio loss	dwAlarmChanNum*(DWORD) channel No.
1, 4, 5	HDD full, HDD uninitialized, writing to HDD failed	dwAlarmHardDiskNum*(DWORD) HDD No.
7, 8, 12, 17, 18, 24, 25, 26	Standard mismatches, invalid login, array exception, education sharing system alarm, two-way audio request alarm, face library HDD exception, face library changed, picture changed in face picture library	None

A.37 NET_DVR_ALRAM_FIXED_HEADER

Structure About Constant Alarm Information

Member	Data Type	Description
dwAlarmType	DWORD	Alarm information type: 0-alarm input alarm, 1-HDD full, 2-video loss, 3-motion detection, 4-HDD unformatted, 5-writing to HDD failed, 6-video tampering alarm, 7-standard mismatched, 8-invalid login, 9-video exception, 10-recording exception, 11-scene change, 12-RAID exception, 13-resolution mismatched, 15-VCA detection, 16- PoE power supply exception, 17-education sharing system alarm, 18-two-way audio request alarm, 23-pulse alarm, 24-face picture

Member	Data Type	Description
		library HDD exception, 25-face picture library changed, 26-picture of face picture library changed, 27-POC exception, 28-camera FOV exception, 30-no SD card, 31-supply voltage exception, 32-PTZ locked
struAlarmTime	***NET_DVR_TIME_EX***	Alarm time
uStruAlarm	Union (***Table 4-2***)	Alarm information union
pRes	DWORD*	Reserved.
byTimeDiffFlag	BYTE	Whether the time difference parameter is valid: 0-invalid, 1-valid.
cTimeDifferenceH	char	Time difference between time and UTC time, unit: hour, the value is between -12 and +14 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".
cTimeDifferenceM	char	Time difference between time and UTC time, unit: minute, the value is -30, +30, or +45 ("+" indicates the east time zone), it is valid when **byISO8601** is "1".
byRes	Array of BYTE	Reserved, set to 0. The maximum size is 5 bytes.

Table A-2 Union about Alarm Information Structures (uStruAlarm)

Member	Data Type	Description
byUnionLen	Array of BYTE	Union size, which is 116 bytes.
struIOAlarm	Struct (***Table 4-3***)	Structure about alarm input parameters
struAlarmChannel	Struct (***Table 4-4***)	Structure about alarm channel parameters
struAlarmHardDisk	Struct (***Table 4-5***)	Structure about HDD alarm parameters
struRecordingHost	Struct (***Table 4-6***)	Structure about alarm parameters of education sharing system
struVoltageInstable	Struct (***Table 4-7***)	Structure about alarm parameters of supply voltage exception
struPTLocking	Struct (***Table 4-8***	Structure about parameters of PTZ locked alarm

Table A-3 Structure about Alarm Input Parameters (struIOAlarm)

Member	Data Type	Description
dwAlarmInputNo	DWORD	Alarm input No.
dwTrigerAlarmOutNum	DWORD	The number of triggered alarm outputs. It is used for calculating the number of all triggered alarm outputs by **pAlarmData** in **NET_DVR_ALARMINFO_V40** , each alarm output is represented by 4 bytes.
dwTrigerRecordChanNum	DWORD	The number of triggered recording channels. It is used for calculating the number of all triggered recording channels by **pAlarmData** of **NET_DVR_ALARMINFO_V40** , each channel is represented by 4 bytes.

Table A-4 Structure about Alarm Channel Parameters (struAlarmChannel)

Member	Data Type	Description
dwAlarmChanNum	DWORD	The number of alarm channels. It is used for calculating the number of all alarm channels by **pAlarmData** of **NET_DVR_ALARMINFO_V40** , each alarm channel is represented by 4 bytes.
dwPicLen	DWORD	Size of JPEG picture.
byPicURL	BYTE	Picture data format: 0-binary data, 1-URL.
byTarget	BYTE	Detection target type: 0-not supported, 1-person, 2-vehicle.
byRes1	Array of BYTE	Reserved, the maximum size is 2 bytes.
pDataBuff	char*	Alarm picture data or URL. The pointer size is 8 bytes.
byRes3	Array of BYTE	Reserved, the maximum size is 4 bytes. This member is only available for 64-bit Window operating system and 64-bit Linux operating system.

Table A-5 Structure about HDD Alarm Parameters (struAlarmHardDisk)

Member	Data Type	Description
dwAlarmHardDiskNum	DWORD	The number of alarm HDD. It is used for calculating the number of all alarm HDDs by **pAlarmData** of **_NET_DVR_ALARMINFO_V40_** , each alarm HDD is represented by 4 bytes.

Table A-6 Structure about Alarm Parameters of Education Sharing System (struRecordingHost)

Member	Data Type	Description
bySubAlarmType	BYTE	Alarm minor type: 1-one-touch post-record
byRes1	Array of BYTE	Reserved, set to 0. The maximum size is 3 bytes.
struRecordEndTime	**_NET_DVR_TIME_EX_**	Recording end time.

Table A-7 Structure about Alarm Parameters of Supply Voltage Exception (struVoltageInstable)

Member	Data Type	Description
fVoltageValue	float	Supply voltage, unit: V, corrects to one decimal place.
byVoltageAlarmType	BYTE	Supply voltage exception type: 0-high supply voltage, 1-low supply voltage
byRes1	Array of BYTE	Reserved, set to 0. The maximum size is 3 bytes.

Table A-8 Structure about Parameters of PTZ Locked Alarm (struPTLocking)

Member	Data Type	Description
fTemperature	float	Sensor temperature, which is accurate to one decimal place.
dwCustomInfoLength	DWORD	Custom information length.
pCustomInfo	BYTE*	Custom information.
byType	BYTE	PTZ locked direction: 1-panning is locked, 2-tilting is locked.
byDeicingEnabled	BYTE	Whether to enable heat for PTZ: 0-no, 1-yes.

Remarks

dwAlarmType==0, 23 corresponds to the structure struIOAlarm; **dwAlarmType**== 2/3/6/9/10/11/13/15/16/28 corresponds to the structure struAlarmChannel; **dwAlarmType**==

1/4/5 corresponds to the structure struAlarmHardDisk; **dwAlarmType**== 17 corresponds to the structure struRecordingHost; **dwAlarmType**== 31 corresponds to the structure struVoltageInstable; for other value, the union is not available.

A.38 NET_DVR_ALARM_ISAPI_INFO

Structure about Alarm Information Transmitted Based on Text Protocol

Member	Data Type	Description
pAlarmData	char*	Alarm information based on text protocol (XML or JSON message without binary data).
dwAlarmDataLen	DWORD	Alarm data length.
byDataType	BYTE	Alarm data type: 0-invalid, 1-XML, 2-JSON.
byPicturesNumber	BYTE	The number of pictures (number of **pPicPackData** returned). When this member is 1, only one structure of **NET_DVR_ALARM_ISAPI_PICDATA** will be returned by **pPicPackData**. When this member is larger than 1, multiple structures of **NET_DVR_ALARM_ISAPI_PICDATA** will be returned by **pPicPackData**.
byRes	Array of BYTE	Reserved, set to 0. The maximum size is 2 bytes.
pPicPackData	void*	Alarm picture structure, see **NET_DVR_ALARM_ISAPI_PICDATA** for details.
byRes	Array of BYTE	Reserved. The maximum size is 32 bytes.

Remarks

When enabling the listening mode, you should call the network configuration API based on text protocol to set the IP address for the listening service.

A.39 NET_DVR_ALARM_ISAPI_PICDATA

Structure about Alarm Picture Data Transmitted Based on Text Protocol

Member	Data Type	Description
dwPicLen	DWORD	Alarm picture data length.
byRes	Array of BYTE	Reserved, set to 0. The maximum size is 4 bytes.
szFilename	Array of char	Picture file saving path, including file name. The maximum size is 256 bytes.
pPicData	BYTE*	Pointer that pointing to the uploaded image data.

A.40 NET_DVR_ETHERNET_V30

Ethernet Configuration Structure

Member	Data Type	Description
struDVRIP	***NET_DVR_IPADDR_UNION***	Device IP address
struDVRIPMask	***NET_DVR_IPADDR_UNION***	Mask of device IP address
dwNetInterface	DWORD	Network interface type: 1-10MBase-T; 2-10MBase-T (full duplex); 3-100MBase-TX; 4-100M (full duplex); 5-10M/100M/1000M (self-adaptive); 6-1000M (full duplex)
wDVRPort	WORD	Device port No.
wMTU	WORD	MTU settings, the default is 1500.
byMACAddr	Array of BYTE	Device physical address.
byEthernetPortNo	BYTE	Network interface No.: 0-invalid, 1-interface 0, 2-interface 1, and so on. This parameter is read-only.
byRes	Array of BYTE	Reserved.

A.41 NET_DVR_IPADDR_UNION

IP Address Union

Member	Data Type	Description
szIPv4	char[]	IPv4 address. The maximum length is 16 bytes.
szIPv6	char[]	IPv6 address. The maximum length is 256 bytes.

A.42 NET_DVR_NETCFG_V50

Network Configuration Structure

Member	Data Type	Description
dwSize	DWORD	Structure size.
struEtherNet	Array of **_NET_DVR_ETHERNET_ V30_**	Ethernet interface
struRes1	Array of	Reserved, set to 0.
struAlarmHostIpAddr	**_NET_DVR_IPADDR_UN ION_**	Listening service IP address
byRes2	Array of BYTE	Reserved, set as 0
wAlarmHostIpPort	WORD	Listening service port No.
byUseDhcp	BYTE	Whether to enable DHCP: 0xff- invalid; 0-disable, 1-enable
byIPv6Mode	BYTE	Allocation mode of IPv6 address: 0-by router advertisement, 1-by manual setting, 2-by enabling DHCP allocation.
struDnsServer1IpAddr	**_NET_DVR_IPADDR_UN ION_**	IP address of domain name server 1
struDnsServer2IpAddr	**_NET_DVR_IPADDR_UN ION_**	IP address of domain name server 2

Member	Data Type	Description
byIpResolver	Array of BYTE	IP resolver domain name or IP address (if the port No. of device is 8000, the domain name is not supported).
wIpResolverPort	WORD	IP resolver port No.
wHttpPortNo	WORD	HTTP port No.
struMulticastIpAddr	***NET_DVR_IPADDR_UNION***	Multicast group address
struGatewayIpAddr	***NET_DVR_IPADDR_UNION***	Gateway address
struPPPoE	***NET_DVR_PPPOECFG***	PPPoE parameters
byEnablePrivateMulticastDiscovery	BYTE	Private multicast search (SADP): 0-default, 1-enable, 2-disable
byEnableOnvifMulticastDiscovery	BYTE	Onvif multicast search (SADP): 0-default, 1-enable, 2-disable
wAlarmHost2IpPort	WORD	Port No. of listening host 2.
struAlarmHost2IpAddr	***NET_DVR_IPADDR_UNION***	IP address of listening host 2
byEnableDNS	BYTE	DNS address setting mode: 0-automatically get, 1-manually set.
byRes	Array of BYTE	Reserved, set to 0

Remarks

- For device only supports the private protocol with version 3.0 or lower, when the parameter **byUseDhcp**="0xff", you should set the device IP address to null, and then the device will automatically get the DHCP information.
- When the parameter **byIPv6Mode** is set to 0 or 2, setting IPv6 address in the parameter **struEtherNet** is not required, it will be obtained automatically by the device; when **byIPv6Mode** is set to 1, you should set IPv6 address. As there are multiple IPv6 addresses, the IPv6 address of current logged-in device may be different with that in **struEtherNet**.

A.43 NET_DVR_PPPOECFG

PPPoE Configuration Structure

Member	Data Type	Description
dwPPPOE	DWORD	Whether to enable PPPoE: 0-no, 1-yes.
sPPPoEUser	Array of BYTE	PPPoE user name.
sPPPoEPassword	Array of char	PPPoE password.
struPPPoEIP	***NET_DVR_IPADDR_UNION***	PPPoE IP address

A.44 NET_DVR_SETUPALARM_PARAM_V50

Arming Parameter Structure

Member	Data Type	Description
dwSize	DWORD	Structure size.
byLevel	BYTE	Arming priority: 0-high, 1-medium, 2-low.
byAlarmInfoType	BYTE	Intelligent traffic alarm information type: 0-old (NET_DVR_PLATE_RESULT),1-new (NET_ITS_PLATE_RESULT).
byRetAlarmTypeV40	BYTE	0-the motion detection, video loss, video tampering, and alarm input alarm information is uploaded in normal mode (alarm type: COMM_ALARM_V30, alarm information structure: ***NET_DVR_ALARMINFO_V30***); 1-alarm information is uploaded in variable size (alarm type: COMM_ALARM_V40, alarm information structure: ***NET_DVR_ALARMINFO_V40***).
byRetDevInfoVersion	BYTE	Alarm types of CVR: 0-COMM_ALARM_DEVICE (alarm information structure: ***NET_DVR_ALARMINFO_DEV***), 1-COMM_ALARM_DEVICE_V40 (alarm information structure: ***NET_DVR_ALARMINFO_DEV_V40***).
byRetVQDAlarmType	BYTE	VQD alarm types: 0-COMM_ALARM_VQD (alarm information structure: NET_DVR_VQD_

Member	Data Type	Description
		DIAGNOSE_INFO), 1-COMM_ALARM_VQD_EX (alarm information structure: NET_DVR_VQD_ALARM, including camera information and captured pictures)
byFaceAlarmDetection	BYTE	Face detection alarm types: 1-face detection alarm (alarm type: COMM_ALARM_FACE_DETECTION, alarm information structure: NET_DVR_FACE_DETECTION), 0-face capture alarm (alarm type: COMM_UPLOAD_FACESNAP_RESULT, alarm information structure: NET_VCA_FACESNAP_RESULT).
bySupport	BYTE	Capabilities, which is represented by bit: • bit0-whether to upload picture: 0-yes, 1-no • bit1-whether to enable ANR: 0-no, 1-yes • bit4-whether to upload abnormal event detection events of all detection targets: 0-no, 1-yes. It is used to enable the NVR to get events of all targets detected by network cameras. • bit5-whether to enable all-day event or alarm uploading: 0-no, 1-yes. It is used to enable the NVR to receive all alarms from network cameras.
byBrokenNetHttp	BYTE	ANR type, which is represented by bit and should be supported by device: • bit0-whether to enable ANR for ANPR: 0-no, 1-yes. • bit1-whether to enable ANR for people counting: 0-no, 1-yes. • bit2-whetehr to enable ANR for heat map: 0-no, 1-yes. • bit3-whether to enable ANR for face capture: 0-no, 1-yes. • bit4-whether to enable ANR for face picture comparison: 0-no, 1-yes. • bit5-whether to enable ANR for JSON message transmission: 0-no, 1-yes.

Member	Data Type	Description
		• bit6: whether to enable ANR for uploading heat map data by dwell time duration and by people quantity: 0-no, 1-yes. • bit7: whether to enable ANR for uploading intersection analysis result: 0-no, 1-yes.
wTaskNo	BYTE	Task No.
byDeployType	BYTE	Arming type: 0-arm via client software, 1-real-time arming.
bySubScription	BYTE	Subscription parameters, which is represent by bit. Bit7-whether to upload picture after subscribing motion detection alarm by person or vehicle: 0-no, 1-yes.
byRes1	Array [BYTE]	Reserved, set to 0. The maximum size is 2 bytes.
byAlarmTypeURL	BYTE	Alarm picture data type, which is represented by bit, if the device supports uploading alarm pictures in binary format and URL format, you can specify the data type to be uploading via this parameter, if the device only supports URL format, this parameter is invalid. If the URL format is selected, you should set the device and enable the cloud storage, otherwise, the picture will still be transmitted in binary format. • bit0-type of captured face pictures: 0-binary data, 1-URL • bit1-type of picture uploaded in message: 0-binary, 1-URL • bit2-type of picture uploaded for face picture comparison: 0-binary, 1-URL
byCustomCtrl	BYTE	Custom control type, which is represented by bit, bit0-whether to upload the face thumbnail of the front passenger: 0-no, 1-yes
byRes4	Array [BYTE]	Reserved, set to 0. The maximum size is 128 bytes.

Remarks

- The parameters **byLevel** and **byAlarmInfoType** are available for traffic cameras. Up to 1 cameras can be armed in the priority of level 0, up to 3 cameras can be armed in the priority of level 1, and up to 5 cameras can be armed in the priority of level 3, the alarm/event information from the camera in highest priority will be uploaded first.
- For arming via client software, only supports arming one channel, and supports uploading the alarm/event when device is offline; for real-time arming, up to four channels can be armed at same time, but uploading alarm/event when device is offline is not supported.
- The parameter **wTaskNo** is used to distinguish different arming connections. If the value of this parameter in different arming connections is same, error will be returned.

A.45 NET_DVR_TIME

Time Parameter Structure

Member	Data Type	Description
dwYear	DWORD	Year
dwMonth	DWORD	Month
dwDay	DWORD	Day
dwHour	DWORD	Hour
dwMinute	DWORD	Minute
dwSecond	DWORD	Second

A.46 NET_DVR_TIME_EX

Extended Time Parameter Structure

Member	Data Type	Description
wYear	WORD	Year
byMonth	BYTE	Month
byDay	BYTE	Day
byHour	BYTE	Hour
byMinute	BYTE	Minute

Member	Data Type	Description
bySecond	BYTE	Second
byRes	BYTE	Reserved.

A.47 DATE_TIME

Date and Time Structure

Member	Data Type	Description
year	short	Year.
month	short	Month.
dayOfWeek	short	Days of the week: 0-Sunday, 1-Monday, 2-Tuesday, 3-Wednesday, 4-Thursday, 5-Friday, 6-Saturday.
day	short	Day.
hour	short	Hour.
minute	short	Minute.
second	short	Second.
milliSecond	short	Millisecond.

A.48 NET_DVR_DEVICEINFO_V30

Device parameter structure (V30).

Device Parameter Structure (V30)

Member	Data Type	Description
sSerialNumber	BYTE	Device serial No.
byAlarmInPortNum	BYTE	Number of analog alarm inputs
byAlarmOutPortNum	BYTE	Number of analog alarm outputs
byDiskNum	BYTE	Number of HDDs

Member	Data Type	Description
byDVRType	BYTE	Device type
byChanNum	BYTE	Number of analog channels
byStartChan	BYTE	Start No. of analog channel, which starts from 1.
byAudioChanNum	BYTE	Number of two-way audio channels
byIPChanNum	BYTE	Number of digital channels, low 8-bit.
byZeroChanNum	BYTE	Number of channel-zero
byMainProto	BYTE	Transmission protocol type of main stream: 0-private protocol (default), 1-RTSP, 2-private protocol+RTSP
bySubProto	BYTE	Transmission protocol type of sub-stream: 0-private protocol (default), 1-RTSP, 2-private protocol+RTSP
bySupport	BYTE	Capabilities, if the result of bitwise operation is 0, it refers that the capability is not supported, if the result is 1, it indicates that the capability is supported. • bySupport&0x1: whether supports VCA search. • bySupport&0x2: whether supports backup. • bySupport&0x4: whether supports getting encoding parameters. • bySupport&0x8: whether supports dual-NIC. • bySupport&0x10: whether supports remote SADP. • bySupport&0x20: whether supports RAID card. • bySupport&0x40: whether supports searching in IPSAN directory. • bySupport&0x80: whether supports RTP over RTSP.
bySupport1	BYTE	Extended capabilities, if the result of bitwise operation is 0, it refers that the capability is not supported, if the result is 1, it indicates that the capability is supported.

Member	Data Type	Description
		• bySupport1&0x1: whether supports SNMP with version 30. • bySupport1&0x2: whether supports playback and downloading video files. • bySupport1&0x4: whether supports setting the arming priority. • bySupport1&0x8: whether supports extending the arming time period. • bySupport1&0x10: whether supports multiple HDDs (more than 33). • bySupport1&0x20: whether supports RTP over RTSP. • bySupport1&0x80: whether supports license plate recognition alarm.
bySupport2	BYTE	Extended capabilities, if the result of bitwise operation is 0, it refers that the capability is not supported, if the result is 1, it indicates that the capability is supported. • bySupport2&0x1: whether supports getting stream via URL. • bySupport2&0x2: whether supports FTP with version 40. • bySupport2&0x4: whether supports ANR. • bySupport2&0x20: whether supports getting device status. • bySupport2&0x40: whether supports encrypting stream.
wDevType	WORD	Device model
bySupport3	BYTE	Extended capabilities, if the result of bitwise operation is 0, it refers that the capability is not supported, while, if the result is 1, it indicates that the capability is supported. • bySupport3&0x1: whether supports multi-stream. • bySupport3&0x4: whether supports configuring by group (e.g., image, alarm input, alarm output, user, device status, JPEG picture capture, continuous and scheduled

Member	Data Type	Description
		capture, .HDD group management, and so on). • bySupport3&0x20: whether supports getting stream via DDNS.
byMultiStreamProto	BYTE	Whether supports multi-stream, if the result of bitwise operation is 0, it refers to not support, if the result is 1, it refers to support. • byMultiStreamProto&0x1: whether supports third-stream. • byMultiStreamProto&0x2: whether supports fourth-stream. • byMultiStreamProto&0x40: whether supports main stream. • byMultiStreamProto&0x80: whether supports sub-stream.
byStartDChan	BYTE	Start No. of digital channel, 0-no digital channel (e.g., DVR, network camera).
byStartDTalkChan	BYTE	Start No. of two-way audio channel, 0-no two-way audio channel.
byHighDChanNum	BYTE	Number of digital channels, high 8-bit.
bySupport4	BYTE	Extended capabilities, if the result of bitwise operation is 0, it refers that the capability is not supported, if the result is 1, it indicates that the capability is supported. • bySupport4&0x01: whether all stream types support RTSP and private protocol. • bySupport4&0x02: whether the device supports transmitting form format data via API (NET_DVR_STDXMLConfig). • bySupport4&0x10: whether supports loading network disk by domain name.
byLanguageType	BYTE	Supported language types, if the result of bitwise operation is 0, it refers to not support, if the result is 1, it refers to support.

Member	Data Type	Description
		• byLanguageType ==0: this field is not supported by device. • byLanguageType&0x1: whether supports Chinese. • byLanguageType&0x2: whether supports English.
byVoiceInChanNum	BYTE	Number of audio input channels
byStartVoiceInChanNo	BYTE	Start No. of audio input channel, 0-invalid.
byRes3	Array of BYTE	Reserved, set to 0.
byMirrorChanNum	BYTE	Number of mirror channels
wStartMirrorChanNo	WORD	Start No. of mirror channel
byRes2	Array of BYTE	Reserved, set to 0.

Remarks

- The maximum number of digital channels equal to byIPChanNum+byHighDChanNum*256.
- For login via text protocol, the following parameters are not supported: **byMainProto**, **bySubProto**, **bySupport**, **bySupport1**, **bySupport2**, **bySupport3**, **bySupport4**, **bySupport5**, **bySupport6**, **bySupport7**, **byMultiStreamProto**, **byStartDTalkChan**, **byVoiceInChanNum**, **byStartVoiceInChanNo**, **byMirrorChanNum**, and **wStartMirrorChanNo**.

See Also

NET_DVR_DEVICEINFO_V40

A.49 NET_DVR_DEVICEINFO_V40

Device Parameter Structure (V40)

Member	Data Type	Description
struDeviceV30	*NET_DVR_DEVICEINFO_V30*	Device parameters
bySupportLock	BYTE	Whether supports locking function: 1-support.
byRetryLoginTime	BYTE	Remaining login attempts, it is valid when the user name or password is incorrect and the **bySupportLock** is 1.

Member	Data Type	Description
byPasswordLevel	BYTE	Password strength: 0-invalid, 1-default password, 2-valid password, 3-risky password. For default password or risky password, the users are reminded to change password.
byProxyType	BYTE	Proxy type: 0-no proxy, 1-standard proxy, 2-EHome proxy.
dwSurplusLockTime	DWORD	Remaining locking time, unit: second. It is valid only when **bySupportLock** is 1. During the locing time, if the user try to log in to again, the remaining locking time will resume to 30 minutes.
byCharEncodeType	BYTE	Character encodings. 0-no decoding information, 1-GB2312 (Simplified Chinese), 2-GBK, 3-BIG5 (Traditional Chinese), 4-Shift_JIS (Japanese), 5-EUC-KR (Korean), 6-UTF-8, 7-ISO8859-1, 8-ISO8859-2, 9-ISO8859-3, …, 21-ISO8859-15 (Western European)
bySupportDev5	BYTE	Whether to support getting the parameters of devices that support HCNetSDK version 5.0 or above, the size of device name and type name are extended to 64 bytes.
bySupport	BYTE	Whether it supports uploading changes, it depends on the result of bitwise AND (&) operation: 0-not support, 1-support. The result of **bySupport**&0x1 indicates that this member is reserved; the result of **bySupport**&0x2 indicates that whether it supports uploading changes: 0-not support, 1-support. This member is the capability set extension.
byLoginMode	BYTE	Login mode: 0-login via private protocol, 1-login via text protocol. For private protocol, the default login port number is 8000, and for text protocol, the default login port number is 80 or 443.
dwOEMCode	DWORD	OEM code.

Member	Data Type	Description
iResidualValidity	int	Remaining valid days of the user's password, unit: day. If the negative number is returned, it indicates that the password being used has expired. For example, if -3 is returned, it indicates that the password being used has expired for three days.
byResidualValidity	BYTE	Whether the member **iResidualValidity** is valid: 0-invalid, 1-valid.
bySingleStartDTalkChan	BYTE	Start channel No. for connecting independent audio tracks to the device. The value 0 is reserved and invalid. The channel No. of audio tracks cannot start from 0.
bySingleDTalkChanNums	BYTE	Total number of channels of the device connected with independent tracks, 0-not support.
byPassWordResetLevel	BYTE	Whether to prompt the non-admin user to change the password: 0 (invalid), 1 (If the administrator creates a non-admin user account with an initial password, the non-admin user will be prompted "Please change the initial password" each time he/she logs in to the device until he/she changes the initial password), 2(If the non-admin user's password has been changed by the administrator, the non-admin user will be prompted "Please set a new password" each time he/she logs in to the device until he/she changes the password).
bySupportStreamEncrypt	BYTE	Whether it supports stream encryption, it depends on the result of bitwise AND (&) operation: 0-no, 1-yes. The result of **bySupportStreamEncrypt**&0x1 indicates whether to support RTP/TLS streaming, the result of **bySupportStreamEncrypt**&0x2 indicates whether to support SRTP/UDP streaming, and the result of **bySupportStreamEncrypt**&0x4 indicates

Member	Data Type	Description
		whether to support SRTP/MULTICAST streaming.
byRes2	Array of BYTE	Reserved, set to 0.

Remarks

- Four character types are allowed in the password, including digits, lowercase letters, uppercase letters and symbols. The maximum password length is 16 bits, and there are four password strength levels, see details below:
  - Level 0 (Risky Password): The password length is less than 8 bits, or only contains one kind of the character types. Or the password is the same with the user name, or is the mirror writing of the user name.
  - Level 1 (Weak Password): The password length is more than or equal to 8 bits, and contains two kinds of the character types. Meanwhile, the combination should be (digits + lowercase letters) or (digits + uppercase letters).
  - Level 2 (Medium Password): The password length is more than or equal to 8 bits, and contains two kinds of the character types. Meanwhile, the combination cannot be (digits + lowercase letters) and (digits + uppercase letters).
  - Level 3 (Strong Password): The password length is more than or equal to 8 bits, and at least contains three kinds of the character types.
- For login via text protocol, the following parameters are not supported: **bySupportLock**, **byRetryLoginTime**, **byPasswordLevel**, **byProxyType**, **dwSurplusLockTime**, **byCharEncodeType**, and **bySupportDev5**.

A.50 NET_DVR_INIT_CFG_ABILITY

Initialization Capability Structure

Member	Data Type	Description
enumMaxLoginUsersNum	INIT_CFG_MAX_NUM	Maximum number of users can log in, see details below: enum _INIT_CFG_MAX_NUM_{ INIT_CFG_NUM_2048 = 2048, INIT_CFG_NUM_5120 = 5120, INIT_CFG_NUM_10240 = 10240, INIT_CFG_NUM_15360 = 15360,

Member	Data Type	Description
		INIT_CFG_NUM_20480 = 20480 }INIT_CFG_MAX_NUM
enumMaxAlarmNum	INIT_CFG_MAX_NUM	Maximum number of alarm channels, see details below: enum _INIT_CFG_MAX_NUM_{ INIT_CFG_NUM_2048 = 2048, INIT_CFG_NUM_5120 = 5120, INIT_CFG_NUM_10240 = 10240, INIT_CFG_NUM_15360 = 15360, INIT_CFG_NUM_20480 = 20480 }INIT_CFG_MAX_NUM
byRes	Array of BYTE	Reserved, set to 0.

Remarks

By default, up to 2048 channels are supported. More channels require higher computer performance and network bandwidth.

See Also

NET_DVR_SetSDKInitCfg

A.51 NET_DVR_LOCAL_SDK_PATH

Path Information Structure for Loading Component Libraries

Member	Data Type	Description
sPath	Array of char	Component libraries' addresses
byRes	Array of BYTE	Reserved.

Remarks

If the path of HCNetSDKCom folder and HCNetSDK libraries are same, but the path of executable programs are different, you can call ***NET_DVR_SetSDKInitCfg*** to specify the path of HCNetSDKCom folder to make sure the component libraries are loaded normally.

A.52 NET_DVR_USER_LOGIN_INFO

Structure About Login Parameters

Member	Data Type	Description
sDeviceAddress	char	Device IP address, or domain name.
byUseTransport	BYTE	Enable capability transmission or not: 0-no (default), 1-yes.
wPort	WORD	Device port number, e.g., 8000 (when login by private protocol), 80 (when login by text protocol).
sUserName	char	User name for logging in to device.
sPassword	char	Login password.
cbLoginResult	*__fLoginResultCallBack__*	Callback function used to return login status, it is valid only when **bUseAsynLogin** is "1".
pUser	void*	User data.
bUseAsynLogin	BOOL	Whether to enable asynchronous login: 0-no, 1-yes.
byProxyType	BYTE	Proxy server type: 0-no proxy, 1-standard proxy, 2-EHome proxy.
byUseUTCTime	BYTE	0-not convert (default), 1-input or output UTC time, 2-input or output local time.
byLoginMode	BYTE	Login mode: 0-login by private protocol, 1-login by text protocol, 2-self-adaptive (it is available when the protocol type supported by device is unknown, and this mode does not support asynchronous login).
byHttps	BYTE	Whether to enable TLS for login (by private protocol or by text protocol): 0-no, 1-yes, 2-self-adaptive (which is usually used when the protocol type supported by device is unknown. Both HTTP and HTTPS requests will be sent).
iProxyID	LONG	Proxy server No.
byVerifyMode	BYTE	Whether to enable verification mode: 0-no, 1-bidirectional verification (currently not available), 2-unidirectional verification (it is valid when **byLoginMode** is 0 and **byHttps** is 1);

Member	Data Type	Description
		when **byVerifyMode** is 0, CA certificate is not required, when **byVerifyMode** is 2, you should call NET_DVR_SetSDKLocalCfg to load CA certificate, and the enumeration value is "NET_SDK_LOCAL_CFG_CERTIFICATION".
byRes3	BYTE[]	Reserved, the maximum length is 119 bytes.

A.53 NET_SDK_CALLBACK_STATUS_NORMAL

Enumeration About Persistent Connection Status

Enumeration Type	Marco Definition Value	Description
NET_SDK_CALLBACK_STATUS_ SUCCESS	1000	Succeeded.
NET_SDK_CALLBACK_STATUS_ PROCESSING	1001	Connecting. The **lpBuffer** is 4-byte status.
NET_SDK_CALLBACK_STATUS_ FAILED	1002	Failed. The **lpBuffer** is the value of 4-byte status and 4-byte error code.

A.54 NET_VCA_RECT

Structure About Rectangle Region Coordinate Parameters

Member	Data Type	Description
fX	float	X-coordinate of frame's upper-left corner, it ranges from 0.000 to 1.
fY	float	Y-coordinate of frame' upper-left corner, it ranges from 0.000 to 1.
fWidth	float	Frame width, it ranges from 0.000 to 1.
fHeight	float	Frame height, it ranges from 0.000 to 1.

Appendix B. Request URIs

Description	URI	Method	Request and Response Message
Get device information.	/ISAPI/System/deviceInfo	GET	XML_DeviceInfo XML_ResponseStatus
Edit device information.	/ISAPI/System/deviceInfo	PUT	-
Control PTZ.	/ISAPI/PTZCtrl/channels/<ID>/ continuous	PUT	XML_ResponseStatus
Get preset list.	/ISAPI/PTZCtrl/channels/<ID>/ presets	GET	XML_PTZPresetList XML_ ResponseStatus
Manage all configured presets.	/ISAPI/PTZCtrl/channels/<ID>/ presets	POST	-
Delete all presets.	/ISAPI/PTZCtrl/channels/<ID>/ presets	DELETE	-
Add a preset.	/ISAPI/PTZCtrl/channels/<ID>/ presets/<ID>	PUT	XML_ResponseStatus
Delete a preset.	/ISAPI/PTZCtrl/channels/<ID>/ presets/<ID>	DELETE	XML_ResponseStatus
Get a preset.	/ISAPI/PTZCtrl/channels/<ID>/ presets/<ID>	GET	-
Call a preset.	/ISAPI/PTZCtrl/channels/<ID>/ presets/<ID>/goto	PUT	XML_ResponseStatus
Get partition status.	/ISAPI/SecurityCP/status/ subSystems?format=json	GET	JSON_SubSysList JSON_ResponseStatus
Arm a partition.	/ISAPI/SecurityCP/control/arm/ <ID>?ways=<string>&format=json	PUT	JSON_ResponseStatus
Disarm a partition.	/ISAPI/SecurityCP/control/disarm/ <ID>?format=json	PUT	JSON_ResponseStatus
Clear partition alarms.	/ISAPI/SecurityCP/control/ clearAlarm/<ID>?format=json	PUT	JSON_ResponseStatus
Get zone status	/ISAPI/SecurityCP/status/zones? format=json	GET	JSON_ZoneList JSON_ResponseStatus

Search partition status according to conditions.	/ISAPI/SecurityCP/status/zones?format=json	POST	-
Zone bypass.	/ISAPI/SecurityCP/control/bypass?format=json	PUT	JSON_ResponseStatus
Recover bypass of multiple zones.	/ISAPI/SecurityCP/control/bypassRecover?format=json	PUT	JSON_ResponseStatus
Get relay status by specific conditions.	/ISAPI/SecurityCP/status/outputStatus?format=json	POST	JSON_OutputSearch JSON_ResponseStatus
Control relay in batch.	/ISAPI/SecurityCP/control/outputs?format=json	POST	JSON_ResponseStatus
Get the information of all I/O output ports.	/ISAPI/System/IO/outputs	GET	XML_IOOutputPortList XML_ResponseStatus
Get status of a specific alarm output.	/ISAPI/System/IO/outputs/<ID>/status	GET	XML_IOPortStatus XML_ResponseStatus
Manually trigger a specific alarm output.	/ISAPI/System/IO/outputs/<ID>/trigger	PUT	XML_ResponseStatus
Get device time zone.	/ISAPI/System/time	GET	XML_TimeData XML_ResponseStatus
Get or set device time parameters.	/ISAPI/System/time	PUT	-
Operations about management of all digital channels.	/ISAPI/ContentMgmt/InputProxy/channels	GET	XML_InputProxyChannelList XML_ResponseStatus
Configure operations about management of all digital channels.	/ISAPI/ContentMgmt/InputProxy/channels	PUT	-
Create digital channels	/ISAPI/ContentMgmt/InputProxy/channels	POST	-

Get status of all digital channels.	/ISAPI/ContentMgmt/InputProxy/ channels/status	GET	XML_ InputProxyChannelStatusList XML_ResponseStatus
Refresh the video mode manually before playback.	/ISAPI/ContentMgmt/record/ control/manualRefresh/channels/ <ID>	PUT	XML_ResponseStatus
Search for access control events.	/ISAPI/AccessControl/AcsEvent? format=json	POST	JSON_AcsEvent XML_ResponseStatus
Search for person information.	/ISAPI/AccessControl/UserInfo/ Search?format=json	POST	JSON_UserInfoSearch XML_ResponseStatus

B.1 /ISAPI/ContentMgmt/capabilities

Get storage capability.

Request URI Definition

Table B-1 GET /ISAPI/ContentMgmt/capabilities

Method	GET
Description	Get storage capability.
Query	None.
Request	None.
Response	Succeeded: **_XML_RacmCap_** Failed: **_XML_ResponseStatus_**

B.2 /ISAPI/Event/schedules/reverseEntrance/<ID>

Get or set arming schedule of reverse entering alarm.

Request URI Definition

Table B-2 GET /ISAPI/Event/schedules/reverseEntrance/<ID>

Method	GET
Description	Get arming schedule of reverse entering alarm.

Query	None
Request	None
Response	Succeeded: **_XML_Schedule_** Failed: **_XML_ResponseStatus_**

Table B-3 PUT /ISAPI/Event/schedules/reverseEntrance/<ID>

Method	PUT
Description	Set arming schedule of reverse entering alarm.
Query	None
Request	**_XML_Schedule_**
Response	**_XML_ResponseStatus_**

Remarks

The <**ID**> in the request URI refers to the macro definition of event type and channel ID (reverseEntrance-<**channelID**>, e.g., reverseEntrance-101).

B.3 /ISAPI/Event/triggers/<eventType>-<channelID>

Get, set, or delete the alarm linkage action by channel.

Request URI Definition

Table B-4 GET /ISAPI/Event/triggers/<eventType>-<channelID>

Method	GET
Description	Get the alarm linkage action by channel.
Query	None
Request	None
Response	Succeeded: **_XML_EventTrigger_** Failed: **_XML_ResponseStatus_**

Table B-5 PUT /ISAPI/Event/triggers/<eventType>-<channelID>

Method	PUT
Description	Set the alarm linkage action by channel.

Query	None
Request	***XML_EventTrigger***
Response	***XML_ResponseStatus***

Table B-6 DELETE /ISAPI/Event/triggers/<eventType>-<channelID>

Method	DELETE
Description	Delete the alarm linkage action by channel.
Query	None
Request	None
Response	***XML_ResponseStatus***

Remarks

The <**eventType**> in the request URI refers to the predefined event or alarm type name, and the <**channelID**> is the No. of the event detection channel. For example, if the No. of the face capture channel is 101, the "<**eventType**>-<**channelID**>" is "faceSnap-101".

B.4 /ISAPI/Smart/Shield/channels/<channelID>

Get or set parameters of shielded area for smart detection.

Request URI Definition

Table B-7 GET /ISAPI/Smart/Shield/channels/<channelID>

Method	GET
Description	Get parameters of shielded area for smart detection.
Query	None.
Request	None.
Response	Succeeded: ***XML_Smart_Shield*** Failed: ***XML_ResponseStatus***

Table B-8 PUT /ISAPI/Smart/Shield/channels/<channelID>

Method	PUT
Description	Set parameters of shielded area for smart detection.

Query	None.
Request	***XML_Smart_Shield***
Response	***XML_ResponseStatus***

Remarks

The <**ID**> in the request URL refers to channel ID.

B.5 /ISAPI/Smart/Shield/channels/<channelID>/capabilities

Get configuration capability of shielded area for smart detection.

Request URI Definition

Table B-9 GET /ISAPI/Smart/Shield/channels/<channelID>/capabilities

Method	GET
Description	Get configuration capability of shielded area for smart detection.
Query	None.
Request	None.
Response	Succeeded: ***XML_Smart_ShieldCap*** Failed: ***XML_ResponseStatus***

B.6 /ISAPI/System/Video/inputs/channels/<ID>/counting

Get or set people counting parameters of one video input channel.

Request URI Definitions

Table B-10 GET /ISAPI/System/Video/inputs/channels/<ID>/counting

Method	GET
Description	Get the people counting parameters of one video input channel.
Query	None
Request	None
Response	Succeeded: ***XML_Counting*** Failed: ***XML_ResponseStatus***

Table B-11 PUT /ISAPI/System/Video/inputs/channels/<ID>/counting

Method	PUT
Description	Set the people counting parameters of one video input channel.
Query	None
Request	*XML_Counting*
Response	*XML_ResponseStatus*

Remarks

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

B.7 /ISAPI/System/Video/inputs/channels/<ID>/counting/capabilities

Get capability of people counting statistics.

Request URI Definition

Table B-12 GET /ISAPI/System/Video/inputs/channels/<ID>/counting/capabilities

Method	GET
Description	Get capability of people counting statistics.
Query	None
Request	None
Response	Succeeded: *XML_CountingCap* Failed: *XML_ResponseStatus*

Remarks

The <**ID**> in the request URI refers to the video input channel ID.

B.8 /ISAPI/System/Video/inputs/channels/<ID>/counting/ reverseAlarm?format=json

Get or set parameters of reverse entering alarm.

Request URI Definition

Table B-13 GET /ISAPI/System/Video/inputs/channels/<ID>/counting/reverseAlarm?format=json

Method	GET
Description	Get parameters of reverse entering alarm.
Query	**format**: determine the format of request or response message.
Request	None
Response	Succeeded: ***JSON_reverseAlarm*** Failed: ***JSON_ResponseStatus***

Table B-14 PUT /ISAPI/System/Video/inputs/channels/<ID>/counting/reverseAlarm? format=json

Method	PUT
Description	Set parameters of reverse entering alarm.
Query	**format**: determine the format of request or response message.
Request	***JSON_reverseAlarm***
Response	***JSON_ResponseStatus***

Remarks

The <**ID**> in the request URI refers to the video input channel ID.

B.9 /ISAPI/System/Video/inputs/channels/<ID>/counting/search/ capabilities

Get the people counting configuration capability of a video input channel.

Request URI Definition

Table B-15 GET /ISAPI/System/Video/inputs/channels/<ID>/counting/search/capabilities

Method	GET
Description	Get the people counting configuration capability of a video input channel.
Query	None

Request	None
Response	Succeeded: ***XML_CountingSearchCap*** Failed: ***XML_ResponseStatus***

Remarks

The <**ID**> in the request URI refers to the video input channel ID.

B.10 /ISAPI/System/Video/inputs/channels/<ID>/counting/status

Get people counting status by channel.

Request URI Definition

Table B-16 GET /ISAPI/System/Video/inputs/channels/<ID>/counting/status

Method	GET
Description	Get people counting status by channel.
Query	None
Request	None
Response	Succeeded: ***XML_CountingStatus*** Failed: ***XML_ResponseStatus***

Remarks

The <**ID**> in the request URI refers to the video input channel ID.

Appendix C. Request and Response Messages

C.1 JSON_EventNotificationAlert_Alarm/EventInfo

EventNotificationAlert message with alarm or event information in JSON format.

```
{
  "ipAddress": "",
/*required, device IPv4 address , string, the maximum size is 32 bytes*/
  "ipv6Address": "",
/*optional, device IPv6 address, string, the maximum size is 128 bytes*/
  "portNo": ,
/*optional, device port No., integer32*/
  "protocol": "",
/*optional, protocol type, "HTTP, HTTPS", string, the maximum size is 32 bytes*/
  "macAddress": "",
/*optional, MAC address, string, the maximum size is 32 bytes, e.g., 01:17:24:45:D9:F4*/
  "channelID": "",
/*optional, device channel No., integer32*/
  "dateTime": "",
/*optional, string, alarm/event triggered or occurred time based on ISO8601, the maximum size is 32 bytes, e.g.,
2009-11-14T15:27Z*/
  "activePostCount": "",
/*required, alarm/event frequency, integer32*/
  "eventType": "",
/*required, alarm/event type, "captureResult, faceCapture,...", string, the maximum size is 128 bytes*/
  "eventState": "",
/*required, string, the maximum size is 32 bytes, durative alarm/event status: "active"-valid, "inactive"-invalid*/
  "eventDescription": "",
/*required, event description, string, the maximum size is 128 bytes*/
  "deviceID":"",
/*string type, device ID*/
  "uuid":"",
/*string type, event UUID, which is used to uniquely identify an event, the standard UUID format is xxxxxxxx-xxxx-xxxx-
xxxx-xxxxxxxxxxxx*/
  ...
/*optional, for different alarm/event types, the nodes are different, see the message examples in different
applications*/
}
```

C.2 JSON_EventNotificationAlert_reverseEntrance

The reverse entering alarm is uploaded in the JSON format of EventNotificationAlert message.

Reverse Entering Alarm with Picture URL

```
{
  "ipAddress":"",
  "ipv6Address":"",
  "portNo": ,
  "protocol":"",
  "macAddress":"",
  "channelID":,
  "releatedChannelList": [1,2,3],
/*optional, array of integers, list of alarm related channels, which are of the same camera with channelID; this
parameter is used for live view or playback on the platform*/
  "dateTime":"",
  "activePostCount",
  "eventType":"reverseEntrance",
/*required, event/alarm type, here it should be set to "reverseEntrance", the maximum length is 128 bytes*/
  "eventState":"",
  "eventDescription":""
/*refer to the message JSON_EventNotificationAlert_Alarm/EventInfo for description details of the above nodes*/
  "url":""
/*optional, string, URL of reverse entering alarm picture*/
}
```

Reverse Entering Alarm with Binary Picture Data

```
Content-Type: multipart/form-data; boundary=MIME_boundary
--MIME_boundary
Content-Type: application/json
Content-Length:

{
  "ipAddress":"",
  "ipv6Address":"",
  "portNo": ,
  "protocol":"",
  "macAddress":"",
  "channelID":,
  "releatedChannelList": [1,2,3],
/*optional, array of integers, list of alarm related channels, which are of the same camera with channelID; this
parameter is used for live view or playback on the platform*/
  "dateTime":"",
  "activePostCount",
  "eventType":"reverseEntrance",
/*required, event/alarm type, here it should be set to "reverseEntrance", the maximum length is 128 bytes*/
  "eventState":"",
  "eventDescription":""
/*refer to the message JSON_EventNotificationAlert_Alarm/EventInfo for description details of the above nodes*/
}

--MIME_boundary
Content-Disposition: form-data; name="F4F665D6A18E41308CE9934DCDDD1111"; filename="reverseEntrance.jpg";
```

```
Content-Type: image/jpeg
Content-Length: 5798
Content-ID: reverseEntranceImage
```

See Also

JSON_EventNotificationAlert_Alarm/EventInfo

C.3 JSON_ResponseStatus

JSON message about response status

```
{
  "requestURL":"",
/*optional, string, request URL*/
  "statusCode": ,
/*optional, int, status code*/
  "statusString":"",
/*optional, string, status description*/
  "subStatusCode":"",
/*optional, string, sub status code*/
  "errorCode": ,
/*required, 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":"",
/*required, string, error details, this field is required when statusCode is not 1*/
  "MErrCode": "0xFFFFFFFF",
/*optional, string, error code categorized by functional modules*/
  "MErrDevSelfEx": "0xFFFFFFFF"
/*optional, string, extension of MErrCode. It is used to define the custom error code, which is categorized by
functional modules*/
}
```

C.4 JSON_reverseAlarm

reverseAlarm message in JSON format

```
{
  "reverseAlarm":[{
    "id":"",
/*required, integer32 type, armed region ID*/
    "enabled":""
/*required, boolean type, whether to enable reverse entering alarm*/
  }]
}
```

C.5 XML_BasicCapability

BasicCapability message in XML format

```
<?xml version="1.0" encoding="utf-8"?>
<!--req, software and hardware capabilities-->
<BasicCapability version="2.0">
  <HardwareCapability><!--req, hardware capability-->
    <HardwareVersion>
      <!--req, the version of front panel: higher 16-bit means the major version, and lower 16-bit means the minor
version-->
    </HardwareVersion>
    <AlarmInPortNum><!--req, number of alarm inputs--></AlarmInPortNum>
    <AlarmOutPortNum><!--req, number of alarm outputs--></AlarmOutPortNum>
    <RS232Num><!--req, number of RS232 ports--></RS232Num>
    <RS485Num><!--req, number of RS485 ports--></RS485Num>
    <NetworkPortNum><!--req, number of network interfaces--></NetworkPortNum>
    <USBNum><!--req, nunber of USB ports--></USBNum>
    <FlashSize><!--req, the flash size (unit:MB)--></FlashSize>
    <RamSize><!--req, RAM size (unit:M)--></RamSize>
    <USBVersion><!--req, USB version--></USBVersion>
    <SDNum><!--req, number of SD cards--></SDNum>
    <HardDiskNum>
      <!--req, number of HDDs (including SATA, eSATA and NAS), number of available HDDs-->
    </HardDiskNum>
    <SATANum><!--req, number of SATAs--></SATANum>
    <eSATANum><!--req, number of eSATAs--></eSATANum>
    <miniSASNum><!--req, number of miniSASs--></miniSASNum>
    <VideoInNum><!--req, number of video inputs--></VideoInNum>
    <AudioInNum><!--req, number of audio inputs--></AudioInNum>
    <VideoOutNum><!--req, number of video outputs --></VideoOutNum>
    <AudioOutNum><!--req, number of audio outputs--></AudioOutNum>
    <AudioTalkNum><!--req, number of two-way audio channels--></AudioTalkNum>
    <SDSupport><!--req, whether support SD card: 1-support, the node does not exist-not support --></SDSupport>
    <WiFiSupport><!--req, whether support WiFi: 1-support, the node does not exist-not support --></WiFiSupport>
    <POESupport><!--req, whether support POE: 1-support, the node does not exist-not support --></POESupport>
    <IRSupport><!--req, whether support IR: 1- support, the node does not exist-not support --></IRSupport>
    <VideoOutSupport>
      <!-- req, whether support local video output: 1- support, the node does not exist-not support -->
    </VideoOutSupport>
    <ResetSupport>
      <!-- req, whether support restoring factory settings: 1- support, the node does not exist-not support -->
    </ResetSupport>
    <AnalogChannelNum>
      <!-- req, number of analog channels, which is same with the value of byChanNum returned when logging in-->
    </AnalogChannelNum>
    <IPChannelNum><!-- req, number of IP channels --></IPChannelNum>
    <MultiNetworkCard>
      <!-- req, whether support multiple NICs: 1-support, the node does not exist-not support -->
    </MultiNetworkCard>
    <BondingSupport><!--req, whether support bounding: 1- support, the node does not exist-not support --></
```

```
BondingSupport>
  <VGANumber><!--req, number of VGA ports --></VGANumber>
  <HDMINumber><!--req, number of HDMI® ports --></HDMINumber>
  <CVBSNumber><!--req, number of CVBS ports --> </CVBSNumber>
  <AuxoutNumber><!--req, number of auxiliary outputs--></AuxoutNumber>
  <RAIDType><!--req, RAID type: 0-hardware RAID, 1-software RAID--></RAIDType>
  <RS485>
   <localRs485No min="" max=""/><!--req, local RS485 number-->
   <expandRS485No min="" max="" /><!--req, extended RS485 No.-->
   <fullDuplexRS485No min="" max="" /><!--req, full duplex RS485 No., relative to local RS485 No.-->
   <semiDuplexRS485No min="" max="" /><!--req, half duplex RS485 No., relative to local RS485 No.-->
   <RS485SlotNo min="" max=""/><!--req, RS485 slot No.-->
  </RS485>
  <ZoneNum>
   <!--alarm host uses the node-->
   <localZoneNo min="1" max="64"/>
   <!--req, local alarm input interface (local arming region) No.-->
   <extendZoneNo min="1" max="64"/>
   <!--req, extensible alarm input interface (extensible arming region) No.-->
  </ZoneNum>
  <sirenNo min="" max=""/>
  <!--req, host siren No.-->
  <electroLockNo min="" max=""/><!--req, electric lock No.-->
  <!--req,Electric Lock No. -->
  <mobileGateNo min="" max=""/>
  <!--req,Mobile Gate No.-->
  <TriggerNum><!--req, this node is for security control panel only-->
   <localTriggerNo min="1" max="64"/>
   <!--req, local alarm output No. (local trigger)-->
   <extendTriggerNo min="1" max="64"/>
   <!--req, extended alarm output No. (extended trigger)-->
  <Sensor>
   <!--req, power supply monitoring alarm host uses the node-->
   <totalSensorNum&>
     <!--required, xs:inter, number of analog sensors-->
   </totalSensorNum>
   <localSensorNo min="" max="" />
   <!--req, local analog sensor No.-->
   <expandSensorNo min="" max="" />
   <!--req, extensible analog sensor No.-->
  </Sensor>
  <rs232_rs485No min="" max=""/>
  <!--req,RS232/ number of RS485 serial ports-->
  <MirrorChanNum>1</MirrorChanNum>
  <!--req, number of mirror channels-->
  <DeviceSubBoardInfo>
   <!--req, device sub board information, for use of integrated display controller-->
   <BackBoardType opt = "4U,8U,13U"/>
   <!--req, supported back board type-->
   <SubBoardType opt= "DVI-IInput,YPbPrInput,BNCInput,SDIInput,DVI DualLinkInput,OrdinaryDecodeInput,DVI-
IOutput,SDIOutput,EnhanceDecodeInput"/>
   <!--req, supported sub board type-->
```

```
    </DeviceSubBoardInfo>
  </HardwareCapability>
  <!-- req,  software capability -->
  <SoftwareCapability>
    <!-- req, whether support the new mapping type of hard disk number: 1- support, the node does not exist-not
support -->
    <NewHdNo>1</NewHdNo>
    <!-- req, the max number of network disks supported by the device(the node does not exist-not support), including
NAS and IPSAN  -->
    <MaxNetworkHDNum>8</MaxNetworkHDNum>
    <!-- req, whether support NAS: 1- support, the node does not exist-not support -->
    <NasSupport>1</NasSupport>
    <!-- req, number of NAS -->
    <NasNumber>8</NasNumber>
    <!-- req, the max number of text overlay strings (special for analog channel) -->
    <NetDiskIdentification>
      <!-- req, support network disk access authentication-->
      <NASIdentification>
        <!--req, support NAS access authentication-->
        <NFSMountType>true</NFSMountType>
        <!--req, support NAS supporting NFS access-->
        <CIFSMountType>
          <!--req, support NAS supporting CIFS access-->
          <usernameLen min = "" max= ""/>
          <!--req, max. and min. value of name length on NAS authentication-->
          <passwordLen min = "" max= ""/>
          <!--req, max. and min. value of password length on NAS authentication-->
        </CIFSMountType>
      </NASIdentification>
    </NetDiskIdentification>
    <NasMountPara>
      <addressType opt="IP, Domain"/>
      <!--req, address type of mounted HDD 0-IP address; 1-domain name-->
      <domainAddressLen min = "" max= ""/>
      <!--req, max. and min. length of mounted HDD domain name-->
    </NasMountPara>
    <NetDiskDomain>
      <domainSupport>true</domainSupport>
      <!--req, whether mounted HDD supports domain name: true- yes; false- no-->
      <domainAddressLen min = "" max= ""/>
      <!--req, max. and min. length of mounted HDD domain name-->
    </NetDiskDomain>

    <ShowStringNumber>8</ShowStringNumber>
    <!--req, max. quantity of string overlays (special for analog channel) -->
    <MotionDetectAlarmSupport>1</MotionDetectAlarmSupport>
    <!-- req, whether to support motion detection: 1- Yes, not displayed if not support -->
    <VILostAlarmSupport>1</VILostAlarmSupport>
    <!-- req, whether to support video loss detection: 1-Yes, not displayed if not support (special for analog channel) -->
    <HideAlarmSupport>1</HideAlarmSupport>
    <!-- req, whether to support tamper detection: 1- Yes, not displayed if not support (special for analog channel) -->
    <ShelterSupport>1</ShelterSupport>
```

```
<!-- req, whether to support privacy mask: 1- Yes, not displayed if not support (special for analog channel) -->
<RtspSupport>1</RtspSupport>
<!-- req, whether to support rtsp protocol: 1- Yes, not displayed if not support -->
<RtpoverRtspSupport>
  <!--whether support RTP over RTSP streaming mode: 1-yes, if not supported, this node will not be returned-->
</RtpoverRtspSupport>
<RtspoverHttpsSupport>
  <!--whether supports RTP over HTTPS streaming mode, 1-yes, if not supported, this node will not be returned-->
</RtspoverHttpsSupport>
<NtpSupport>1</NtpSupport>
<!-- req, whether to support NTP timing: 1-Yes, not displayed if not support -->
<EptzSupport>1</EptzSupport>
<!-- req, whether to support E-PTZ:1- Yes, not displayed if not support -->
<PtzSupport>1</PtzSupport>
<!-- req, whether to support PTZ control: 1- Yes, not displayed if not support -->
<DDNSSupport>1</DDNSSupport>
<!-- req, whether to support DDNS: 1- Yes, not displayed if not support. Compatible network camera cannot be
deleted -->
<DDNSHostType>0,1,2,3,4</DDNSHostType>
<!-- req, DDNS server type: 0- IP Server, 1-Dyndns,2-PeanutHull, 3-NO-IP, 4- hkDDNS  -->
<DDNSStatus>1,2,3,4,5,6,7,8,9,10,11,12,13,14,15</DDNSStatus>
<!--req, supported DDNS status type: 1- Failed to connect to address server, 2- Failed to parse address message, 3-
Failed to connect to heartbeat server, 4- Failed to parse heartbeat server message, 5- Failed to connect to domain
name server, 6- Failed to parse domain name server message, 7- Domain name registered, 8- Failed to register domain
name, 9- Heartbeat sent, 10- DNS server is not configured, 11- Domain name is occupied, 12- Service exception, 13-
Authentication required, 14- Invalid domain name, 15- Disabled-->
<SNMPSupport>1</SNMPSupport>
<!-- req, SNMP version, 1-v1, 2-v2, 3-v3 -->
<SNMPVersion>1,2,3</SNMPVersion>
<!-- req, whether support UPNP: 1- support, the node does not exist-not support -->
<UPNPSupport>1</UPNPSupport>
<!-- req, whether support iSCSI: 1- support, the node does not exist-not support -->
<iSCSISupport>1</iSCSISupport>
<!-- req, the max number of IP SAN supported by the device -->
<iSCSINum>1</iSCSINum>
<!-- req, whether support ipv6: 1- support, the node does not exist-not support -->
<Ipv6Support>0</Ipv6Support>
<!-- req, whether support intelligent function: 1- support, the node does not exist-not support -->
<VCASupport>1</VCASupport>
<!-- req, capability set, this node will be returned when video stream is not supported -->
<VideoStreamnotSupport>true</VideoStreamnotSupport >
<!-- req, whether support composite stream(video&audio): 1- support, the node does not exist-not support(special
for analog channel) -->
<MultipleStreamSupport>1</MultipleStreamSupport>
<!-- req, whether support sub stream: 1- support, the node does not exist-not support(special for analog channel) --
>
<SubStreamSupport>1</SubStreamSupport>
<!-- req, whether support EMAIL: 1- support, the node does not exist-not support -->
<EmailSupport>1</EmailSupport>
<!-- req, SADP version: 0-V1.0, 1-V3.0 -->
<SADPVersion>0,1</SADPVersion>
<ZeroChanNumber>1</ZeroChanNumber>
```

```
<!-- req, whether support backup: 1- support, the node does not exist-not support -->
<BackupSupport>1</BackupSupport>
<!-- req, whether support searching record files by event: 1- support, the node does not exist-not support -->
<FindFileByEventSupport>1</FindFileByEventSupport>
<!-- req, whether support smart searching: 1- support, the node does not exist-not support -->
<SmartSearchSupport>1</SmartSearchSupport>
<!-- req, whether support ATM configuration: 1- support, the node does not exist-not support-->
<ATMSupport>1</ATMSupport>
<!-- req, whether support to lock or unlock the files: 1- support, the node does not exist-not support -->
<FileLockSupport>1</FileLockSupport>
<!-- req, whether support dynamic limit for bit rate of main/sub stream: 1- support, the node does not exist-not
support(could not configure the capability) -->
<BitrateLimitSupport>1</BitrateLimitSupport>
<!-- req, the max number of login supported by the device -->
<MaxLoginNum>0</MaxLoginNum>
<!-- req, the max number of live view supported by the device -->
<MaxPreviewNum>0</MaxPreviewNum>
<!-- req, the max number of playback supported by the device -->
<MaxPlayBackNum>0</MaxPlayBackNum>
<!-- req, the max number of connections supported by one channel -->
<MaxChanLinkNum>6</MaxChanLinkNum>
<ShutDownSupport>1</ShutDownSupport>
<!-- req, whether support to freeze preset: 1- support, the node does not exist-not support -->
<FrameFreezeSupport>1</FrameFreezeSupport>
<!-- req, whether support hard disk group configuration: 1- support, the node does not exist-not support -->
<HDgroupConfig>1</HDgroupConfig>
<!--req, whether supports auto saving mode, 1-Yes, if not supports, this node will not be displayed.-->
<AutoStorageMode>1</AutoStorageMode>
<!-- req, whether support RS232 configuration: 1- support, the node does not exist-not support -->
<RS232Config>1</RS232Config>
<!-- req, whether support PPPoE configuration: 1- support, the node does not exist-not support -->
<PPPoEConfig>1</PPPoEConfig>
<!-- req, whether support redundant recording: 1- support, the node does not exist-not support -->
<RedundancyRecord>1</RedundancyRecord>
<!-- req, whether support scale configuration of main or aux video output: 1- support, the node does not exist-not
support -->
<VideoOutScaleConfig>1</VideoOutScaleConfig>
<!-- req, whether support guest user: 1- support, the node does not exist-not support -->
<GuestUser>1</GuestUser>
<!-- req, whether support FTP to upload pictures: 1- support, the node does not exist-not support -->
<UploadFTP>1</UploadFTP>
<!-- req, whether it does not support disk quota: 1- not support, no this node if support -->
<NotSupportDiskQuota>1</NotSupportDiskQuota>
<!-- req, 2012-12-8 support ratio-based disk quota allocation, 1- support, not displayed if not supported-->
<QuotaRatio>1</QuotaRatio>
<!-- req, 2014-4-11 support time-based disk quota allocation, 1- support both recording and picture quota, 2-
support recording quota but not picture quota, not displayed if not supported-->
<QuotaByTime>1</QuotaByTime>
<QuotaWithoutChannel><!--for camera with multiple channels, channel No. is not required when performing disk
quota--></QuotaWithoutChannel>
<LocalVout>
 <mainVoutType opt="mainCVBS,HDMI,VGA,auto"/>
```

```
   <!--req, the output type which is the local main port, nonhomologous device: 0-Auto,1-main CVBS, 2-HDMI®, 3-
VGA; homologous device: 0-Auto, 1-main CVBS, 2-HDMI®/VGA-->
   </LocalVout>
   <SingleStorageMaxCap>16</SingleStorageMaxCap><!--req,the maximum capacity of single storage, unit: T-->
   <IPCPlug>1</IPCPlug><!--req, whether support plug and play of IPC: 1- support, the node does not exist-not
support-->
   <DrawFrameRecord>1</DrawFrameRecord><!--req, whether support frame extract recording: 1- support, the node
does not exist-not support-->
   <DelInvalidDisk>1</DelInvalidDisk><!--req, whether support to delete invalid disks: 1- support, the node does not
exist-not support-->
   <MountOrUnmountDisk>1</MountOrUnmountDisk><!--req, whether support to mount or unmount disks: 1-
support, the node does not exist-not support-->
   <MaxDvcsSubDevNumNum><!--req,the maximum device number which distributed device supported, the device
which is not supported doesn't appear--></MaxDvcsSubDevNumNum>
   <NotSupportInputOutputConfigFile>1</NotSupportInputOutputConfigFile><!--req,input/output the configurate file
is not supported, 1-not support-->
   <NotSupportLogSearch>1</NotSupportLogSearch><!--req,not support log search, if it is supported, it doesn't
appear, 1-not support--><DateUpLoadAndDownLoad><!--data upload and download-->
   <audioType opt="wave"/><!--audio type supported-->
   <uploadAndDownLoad opt = "upload,download"/><!--support upload and download-->
   <maxNum opt= "8"/><!--type:max audio number which is supported by device-->
   </DateUpLoadAndDownLoad>
   <DevModuleServerCfg><!--req,server configuration ability-->
    <!--req,the configuration of telnet is only permitted by "admin"  -->
    <telnetServer opt="disable,enable"/><!--req 0-disable 1-enable-->
    <irLampServer opt="disable,enable"/><!--req 0-disable 1-enable-->
    <abfServer opt="enable,disable,"/>
    <!--req 0-enable, 1-disable -->
    <LEDStatus opt="disable,enable"/>
    <!--req 0-disable, 1-enable-->
    <autoDefog opt="disable,enable"/>
    <!--req, auto defog control: 0- enable, 1- disable-->
    <sshServer opt="disable,enable"/>
    <!--req, SSH settings: 0- enable, 1- disable-->
    <webAuthentication opt="disable,enable"/>
    <!--req, WEB authentication: 0- disable, 1- enable-->
    <supplementLight  opt="disable,enable"/>
    <!--req, illuminator control: 0- enable, 1- disable-->
    <deicing opt="disable,enable"/>
    <!--opt, deicing: 0- disable, 1-enable-->
    <isSupportFireLaserLight><!--opt,xs:boolen, when true, it is thermal imaging fire source detection laser
supplement light--></isSupportFireLaserLight>
   <visibleMovementPower opt="disable,enable"/><!--opt 0-disable, 1-enable-->
   <thermalMovementPower opt="disable,enable"/><!--opt 0-disable, 1-enable-->
   <ptzPower opt="disable,enable"/><!--opt 0-disable, 1-enable-->
   <powerSavingControl opt="sleepMode,lowConsumptionMode"/><!--opt xs:string "Low-power consumption:
sleepMode-Sleepy mode, lowConsumptionMode-Low-power mode-->
    <captureWithSupplimentLightEnabled opt="true,false"><!--opt, xs:boolean, enable snapshot supplement light--></
captureWithSupplimentLightEnabled>
   </DevModuleServerCfg>
   <SearchLogAbilitySupport>1</SearchLogAbilitySupport><!--req,if it supports GB/T28181 protocol, 1-support, if not
support,it does not appear-->
```

```
    <AlarmTriggerRecordAbilitySupport>1</AlarmTriggerRecordAbilitySupport><!--req,if it supports log search 1-
support, if not support,it does not appear-->
    <CameraParaDynamicAbilitySupport>1</CameraParaDynamicAbilitySupport><!--req,if it supports camera
parameters dymatic ability, 1-support, if not support,it does not appear-->
    <IOAbilitySupport>1</IOAbilitySupport>
    <AccessProtocolAbility>1</AccessProtocolAbility>
    <!--req, protocol access capability, 1- support, not displayed if not supported-->
    <CameraMountAbility>1</CameraMountAbility>
    <!--req, camera mount capability, 1- support, not displayed if not supported-->
    <VehicleRecogAbility>1</VehicleRecogAbility>
    <!--req, vehicle secondary detection capability, 1- support, not displayed if not supported-->
    <VcaChanAbility>1</VcaChanAbility>
    <!--req, VCA smart channel capability, 1- support, not displayed if not supported-->
    <Language><!--req  Type of languge-->
     <supportType opt="0-noSupport,1-chinese,2-english"/>
     <!--req 1-chinese,2-English-->
    </Language>
    <LongLinkConfigurationFile>1</LongLinkConfigurationFile>
    <!--req, whether to support long connection import and export configuration file, 1- yes, not displayed if not
supported-->
    <IpViewDev>1</IpViewDev>
    <!--req, support IP video intercom host capability set, corresponding to IpViewDevAbility-->
    <TransDevice>
     <transChannelNum min = "" max = "" />
     <!--req, max. and min. value of transcode channel-->
    </TransDevice>
    <MultiNetworkCardMode>0,1</MultiNetworkCardMode>
    <!--req, supported multi-NIC operating mode, 0- normal, 1- LAN & WAN isolation, not displayed if not supported-->
    <DeviceWorkMode>1,2,3</DeviceWorkMode>
    <!--req, device-supported operating mode, 1- channel mode, 2- stream ID mode, not displayed if not supported-->
    <AllBackupLog>
     <enabled>true</enabled>
     <!--req, whether to support exporting all logs-->
    </AllBackupLog>
    <VoiceTalkAsAudioIn>
     <enabled>true</enabled>
     <!--req, whether to support two-way audio as audio input-->
     <supportVoiceChan opt="1,2"/>
     <!--opt, No. of supported two-way audio channel-->
    </VoiceTalkAsAudioIn>
    <Matrix>1</Matrix>
    <!--req , support matrix capability set MATRIX_ABILITY, not displayed if not supported-->
    <VCADetection opt="true,false"/>
    <!--req, whether to support VCA detection-->
    <PDC opt="true,false"/ ><!--req, whether supports people counting function-->
    <TrialHostAbility>1</TrialHostAbility>
    <!--req, support interrogation host capability, 1- support, not displayed if not supported-->
    <BinocularSupport>1</BinocularSupport>
    <!--req, support stereo cameras, 1- support, not displayed if not supported-->
    <supportChoosePlaybackDrawframe>true</supportChoosePlaybackDrawframe>
    <!--opt, whether supports extracting frames for playback, if not supported, no return-->
    <isNotSupportSummerTime>true</isNotSupportSummerTime>
```

```
<!--opt, return this capability if DST is not supported-->
<BrokenNetHttpSupport opt="postMPR,PDC,heatMapDetection"/>
<!--opt,xs:string, support ANR, vehicle detection under MPR mode, people counting, heat map detection-->
<isSupportSyncIPCPassword>true</isSupportSyncIPCPassword><!--opt, whether to support IP camera password
sync, not returned if not supported-->
<isSupportTransferIPC>true</isSupportTransferIPC><!--opt, whether to support transparent transmission of IP
camera protocol function, not returned if not supported-->
<supportPreviewHRUDP>true</supportPreviewHRUDP><!--opt, whether to support HRUDP live view streaming
mode, not returned if not supported-->
      <isSupportTimeCorrect>true</isSupportTimeCorrect>
      <!--opt,Whether to support the timing operation of NET_DVR_SET_TIMECORRECT-->
<HRUDP> <!--opt-->
  <LinkList>
   <!--req-->
   <Link>
    <!--,req-->
    <previewLink>1</previewLink>
    <!--,req-->
    <recommendResolution opt="39-1920*1080"></recommendResolution>
    <!--,req-->
   </Link>
  </LinkList>
</HRUDP>
<!--opt, SD card unlocked time, if the time is uploaded, it refers to support, if not supported, it will not be
displayed.-->
<SDCardUnlockTime>3</SDCardUnlockTime>
<isSupportOnLineUser>true</isSupportOnLineUser>
<!--opt, device supports getting online user-->
<NeedReboot>
  <!-- req, auto restart after importing configuration file, 1- yes, 2- with prompt, not displayed if not supported-->
  <ImportConfigurationFileReboot>1</ImportConfigurationFileReboot>
  <!-- req, auto restart after ESATA application is modified, 1- restart, not displayed if not supported-->
  <EsataUseageChange>1</EsataUseageChange>
  <!-- req, auto restart after alarm input type is changed, 1- restart, 2- with prompt, not displayed if not supported-->
  <AlarmInTypeChange>1</AlarmInTypeChange>
  <!-- req, auto restart after modification in analog channel, 1- restart, not displayed if not supported -->
  <AnalogChanEnableChange>1</AnalogChanEnableChange>
  <!-- req, auto restart after restoring default settings, 1- restart, 2- with prompt, not displayed if not supported-->
  <RestoreConfig>1</RestoreConfig>
  <!-- req, auto restart after transmission mode of RS232 serial port is modified, 1- restart, not displayed if not
supported-->
  <RS232workModeChange>1</RS232workModeChange>
  <!-- req, auto restart after network transmission port is modified, 1- restart, not displayed if not supported-->
  <NetPortChange>1</NetPortChange>
  <!-- req, auto restart after RTSP port is modified, 1- restart, not displayed if not supported-->
  <RtspPortChange>1</RtspPortChange>
  <!-- req, auto restart after DHCP status is modified, 1- restart, not displayed if not supported-->
  <DhcpEnableChange>1</DhcpEnableChange>
  <!-- req, auto restart after HTTP port is modified, 1- restart, not displayed if not supported -->
  <HttpPortChange>1</HttpPortChange>
  <!-- req, auto restart after PPPoE parameters are modified, 1- restart, not displayed if not supported -->
  <PPPoEChange>1</PPPoEChange>
```

```
<!-- req, auto restart after multicast address is modified in network parameters, 1- restart, not displayed if not
supported -->
<NetMultiCastIPChange>1</NetMultiCastIPChange>
<!-- req, auto restart after HDD parameters are modified, 1- restart, not displayed if not supported -->
<HardDiskParamChange>1</HardDiskParamChange>
<!-- req, auto restart after recording schedule time is modified, 1- restart, not displayed if not supported -->
<RecordTimeChange>1</RecordTimeChange>
<!-- req, auto restart after video compression type is modified, 1- restart, not displayed if not supported -->
<VideoEncodeTypeChange>1</VideoEncodeTypeChange>
<!-- req, auto restart after audio compression type is modified, 1- restart, not displayed if not supported -->
<AudioEncodeTypeChange>1</AudioEncodeTypeChange>
<!-- req, auto restart after video standard is modified, 1- restart, not displayed if not supported -->
<StandardTypeChange>1</StandardTypeChange>
<!-- req, auto restart after defog status is modified, 1- restart, not displayed if not supported -->
<DehazeEnableChange>1</DehazeEnableChange>
<!-- req, auto restart after line encoding status is modified, 1- restart, not displayed if not supported -->
<LineCodingEnableChange>1</LineCodingEnableChange>
<!-- req, auto restart after IP camera parameters local output switch status is modified, 1- restart, not displayed if
not supported -->
<LocalOutputEnableChange>1</LocalOutputEnableChange>
<!-- req, auto restart after main port is switched, 1- restart, not displayed if not supported -->
<LocalMainVoutTypeChange>1</LocalMainVoutTypeChange>
<!-- req, auto restart after NAS authentication parameters are modified, 1- restart, not displayed if not supported --
>
<NASIdentificationChange>1</NASIdentificationChange>
<DeviceLanguageChange>
  <!--whether the reboot is required after editing device language, 1-required, this node does not exist-not
required-->
</DeviceLanguageChange>
<CardReaderFPAlgorithmUpgradeReboot>
  <!--opt, whether the reboot is required after upgrading the fingerprint algorithm program of the fingerprint
module: 1-required, this node does not exist-not required-->
</CardReaderFPAlgorithmUpgradeReboot>
<DeviceUpgradeReboot>
  <!--opt, whether the device will automatically reboot after upgrading: 1-yes (the device will automatically reboot
no matter whether the upgrading succeeded or not, this node does not exist-no)>
</DeviceUpgradeReboot>
<!--whether the device restarts after switching the VoIP protocol of the video intercom device: 1-restart (the user
needs to click "Confirm" and the application will apply the command to restart the device), 2-restart automatically
(the upper-layer application applies the command to restart the device directly). If there is no need to restart the
device, this field will not be displayed-->
<IntercomProtocolTypeChange>1</IntercomProtocolTypeChange>
<!-- req, auto restart after operating mode is modified, 1- restart, not displayed if not supported -->
<DevWorkModeChange>1</DevWorkModeChange>
<!-- req, auto restart after SIP local port is modified, 1- restart, not displayed if not supported -->
<LocalPortChange>1</LocalPortChange>
<!-- req, auto restart after SIP server register cycle is modified, 1- restart, not displayed if not supported -->
<LoginCycleChange>1</LoginCycleChange>
<!-- req, auto restart after RTP port is modified, 1- restart, not displayed if not supported -->
<RtpPortChange>1</RtpPortChange>
<!-- req, auto restart after audio compression priority level is modified, 1- restart, not displayed if not supported -->
<AudioEncodePriorityChange>1</AudioEncodePriorityChange>
```

```
    <!-- req, auto restart after preview delay time is modified, 1- restart, not displayed if not supported -->
    <PreviewDelayTimeChange>1</PreviewDelayTimeChange>
    <!-- req, auto restart after NIC type is modified, 0- no -->
    <NetworkCardTypeChange>0</NetworkCardTypeChange>
    <!--req, auto restart after device cloud storage mode is modified, 1- restart, not displayed if not supported-->
    <CloudStorageModeChangeReboot>1</CloudStorageModeChangeReboot>
    <VcaDecModeChange>1</VcaDecModeChange>
    <!--req, auto restart after enabling smart decoding mode, 1- restart, not displayed if not supported-->
    <CompleteRestoreReboot>1</CompleteRestoreReboot>
    <!--req, auto restart after restoring to factory defaults, 1- restart, not displayed if not supported-->
    <SwitchVehicleDetection>1</SwitchVehicleDetection>
    <!--req, auto restart after vehicle detection mode is modified, 1- restart, not displayed if not supported-->
    <SwitchHVTVehicleDetection>1</SwitchHVTVehicleDetection>
    <!--req, auto restart after mixed vehicle detection mode is switched, 1- restart, not displayed if not supported-->
    <SmartCodec>1</SmartCodec>
    <!--req, auto restart after high performance compression detection mode is switched, 1- restart, not displayed if
not supported-->
    <NUCLEUSToOther>1</NUCLEUSToOther>
    <!--opt, auto restart after switching from nucleus to other protocol, 1- restart, not displayed if not supported-->
    <SystemSwitchReboot>1</SystemSwitchReboot>
    <!--opt, whether to reboot when switching video intercom system, 1-reboot, this node will not be displayed if
reboot is not required>
    <TerminalModeReboot>1</TerminalModeReboot>
    <!--opt, whether to reboot when the face recognition terminal switching the terminal mode, 1-reboot, this node
will not be displayed if reboot is not required>
    <ThirdStream>1</ThirdStream>
    <!--opt, whether to restart after third stream is enabled, 1- yes, not displayed if not supported-->
    <ExtensionModuleUpgradeReboot>1</ExtensionModuleUpgradeReboot>
    <!--opt, whether to reboot after upgrading extended module: 1-Reboot. If there is no need to reboot, this node
will not be displayed-->
    <WorkModeReboot>
      <!--opt, whether the reboot is required when switching working mode of intelligent identity detection terminal,1-
yes, if reboot is not required, this node will not return-->
    </WorkModeReboot>
    <MultiFaceRecogizeChange><!--opt, whether the reboot is required when switching multi-face recognition,1-yes, if
reboot is not required, this node will not return--></MultiFaceRecogizeChange>
    <FaceRecogizeModeChange><!--whether reboot is required after switching facial recognition mode: 1-yes, 2-
device reboots automatically, this node is not returned if reboot is not required--></FaceRecogizeModeChange>
    <ChannelControllerUpgradeReboot>1</ChannelControllerUpgradeReboot>
    <!--opt, whether to reboot after upgrading lane controller: 1- Reboot. If there is no need to reboot, this node will
not be displayed-->
    <UbootUpgradeReboot><!--opt, whether to reboot after upgrading uboot: 1-reboot. If there is no need to reboot,
this node will be displayed--></UbootUpgradeReboot>
  </NeedReboot>
  <SupportMainBoardCameraPTZ>true</SupportMainBoardCameraPTZ><!--opt, PTZ that supports camera control of
master controller-->
  <Support3DPTZ>true</Support3DPTZ>
  <!--opt, whether to support 3D64 speed PTZ control-->
  <SupportUnifiedIPCProtocol>true</SupportUnifiedIPCProtocol>
  <!--opt, whether to support unified IPC protocol, using NET_DVR_IPC_ENUM_UNIFY type-->
  <SupportRemoveStorage>true</SupportRemoveStorage>
  <!--opt, remove device storage function (including video, playback, picture and log) xs:boolean -->
```

```
<CloudSupport>1</CloudSupport>
<!--opt, whether to support third-party cloud: 1- yes, not displayed if not supported-->
<isSupportBatchUploadPic>true</isSupportBatchUploadPic>
<!--opt, whether to support batch upload picture (BATCH_UPLOAD_PICTURE_FILE), not displayed if not supported--
>
<isSupportDownloadVehicleInfo>true</isSupportDownloadVehicleInfo>
<!--opt, whether to support vehicle information search (NET_DVR_GET_VEHICLE_INFORMATION), not displayed if
not supported-->
<isSupportConfirmMechanism>true</isSupportConfirmMechanism>
<!--Whether supports confirming arming, if not supports, no return.-->
<isSupportDNS>
   <!--opt, whether to support enabling manual DNS settings, 1- yes, not displayed if not supported--></
isSupportDNS>
 <HRUDP>
  <!--opt,HRUDP (reliable transmission) capability-->
  <LinkList>
   <!--req,HRUDP connection list-->
   <Link>
    <!--req,HRUDP connection-->
    <previewLink>1</previewLink>
    <!--req,HRUDP number of preview connections-->
    <recommendResolution opt="39-1920*1080"></recommendResolution>
    <!--req,recommended resolution-->
   </Link>
  </LinkList>
 </HRUDP>
<isSupportCountBinocular>true</isSupportCountBinocular>
<!--opt,"supported means the device is dual-lens people counting camera, not displayed if not supported"-->
<isSupportUploadCountBinocular>true</isSupportUploadCountBinocular>
<!--opt,"If supports, the dual-lens people counting camera list will be uploaded, otherwise, no return."-->
<supportChoosePlaybackDrawframe>true</supportChoosePlaybackDrawframe>
<!--opt, whether supports extracting frames for playback, if not supported, no return-->
<isSupportMinSAS>true</isSupportMinSAS>
<isSupportMinSAS>true</isSupportMinSAS>
<!--req, whether to support miniSAS HDD-->
<isNotSupportSummerTime>true</isNotSupportSummerTime>
<!--opt,"return this capability when DST is not supported"-->
<isSupportPanoramicStitch>true</isSupportPanoramicStitch>
<!--opt, whether to support uploading panoramic view configurationfile function, not returned if not supported-->
<isSupportGetFigure/>
<!--opt,xs:boolean, whether supports getting video thumbnails-->
<isSupportGetThumbnails>
 <!--opt, whether supports getting video thumbnails by time segment-->
 <isSupportStreamID opt="true,false"/>
 <!--opt, whether supports stream ID-->
 <resultDataType opt="0,1"/><!--opt, search type: 0-I frame, 1-picture data-->
 <StartTime>
  <year min="" max=""/>
  <month min="" max=""/>
  <day min="" max=""/>
  <hour min="" max=""/>
  <minute min="" max=""/>
```

```
        <second min="" max=""/>
      </StartTime>
      <StopTime>
       <!--opt, search end time-->
       <year min="" max=""/>
       <month min="" max=""/>
       <day min="" max=""/>
       <hour min="" max=""/>
       <minute min="" max=""/>
       <second min="" max=""/>
      </StopTime>
      <fileIntervalTime min="0" max="24*60*60"/>
      <!--opt, video duration, unit: s, integer-->
     </isSupportGetThumbnails>
     <isSupportPrisonPanorama>true</isSupportPrisonPanorama>
     <!--opt,"If supports, it means the device is PanoVo camera (cell); otherwise, no return."-->
     <isSupportSystemLogFileExport>true</isSupportSystemLogFileExport>
     <!--opt, Whether supports exporting system logs.If not supports, no return. -->
     <isSupportNewFaceResult>true</isSupportNewFaceResult>
     <!--opt, Whether supports representing age (age + age error) by new method. If not supports, no return-->
     <isSupportSmoothDragging>
      <!--opt, whether supports smooth drag during playback, xs:boolean,"true"-->
     </isSupportSmoothDragging>
     <PlaybackDrawframeCap><!--opt, supports extracting frames for playback-->
      <drawType opt="0,1,2,3,4,5"/><!--opt, Frame extracting mode: 0-Only transfer I frame, 1-Drop 1/2 P frames (only
supporte dby SVC stream), 2-Drop 3/4 P frames (only supporte by SVC stream), 3-Transfer 1/2 I frames (only transfer I
frames, and transfer one of each 2 I frames), 4-Treansfer 1/4 I frames (only transfer I frames, and transfer one of each
4 I frames), 5-Transfer 1/8 I frames (only transfer I frames, and transfer one of each 8 I frames)-->
     </PlaybackDrawframeCap>
     <isSupportIPCTiming>
      <!--opt,xs:boolean,"true,false", whether supports the byEnableTiming field in access protocol configuration of
network camera-->
     </isSupportIPCTiming>
     <isSupportEncryption>
      <!--opt, whether supports stream encryption function, xs:boolean,"true"-->
     </isSupportEncryption>
     <isSupportMultiChannelSearch>
      <!--opt, whether supports people counting of multiple channels, it is valid only when the value of PDC is "true"-->
     </isSupportMultiChannelSearch>
     <isSupportEncryption><!--opt, whether supports stream encryption, xs: boolean, "true"--></isSupportEncryption>
     <isSupportClientProxyWEB>
      <!--opt, xs:boolean, whether to support the client agent to pass through the remote web configuration: "true"-yes--
>
     </isSupportClientProxyWEB>
     <WEBLocation>
      <!--opt, string, web page location: "local"-local device, "remote". If this node is not returned, the web page
location will be the local device by default-->
     </WEBLocation>
     <deviceId>
      <!--opt, string, device ID. If WEBLocation is "remote", the unique device ID should be returned to mark the unique
web package corresponding to the device. The deviceId is managed by web configuration package, and deviceId
returned by different models of one device is the same-->
```

```
  </deviceId>
 </SoftwareCapability>
</BasicCapability>
```

C.6 XML_Counting

Counting message in XML format

```
<Counting version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <enabled><!--req, xs: boolean--></enabled>
 <normalizedScreenSize><!--opt-->
  <normalizedScreenWidth><!--req, xs: integer--></normalizedScreenWidth>
  <normalizedScreenHeight><!--req, xs: integer--></normalizedScreenHeight>
 </normalizedScreenSize>
 <MountingConfiguration><!--opt, mounting parameters-->
  <viewingAngle><!--req, xs: string, "vertical,tilt"--></viewingAngle>
  <mountHeight><!--opt, xs: integer; mounting height, unit: cm--></mountHeight>
  <horizontalDistance><!--opt, xs: integer; horizontal distance, unit: cm--></horizontalDistance>
  <focalLength><!--opt, xs: integer; unit: mm--></focalLength>
 </MountingConfiguration>
 <OverlayConfiguration><!--opt, OSD parameters-->
  <enabled><!--req, xs: boolean--></enabled>
  <positionX><!--req, xs: interger--></positionX>
  <positionY><!--req, xs: interger--></positionY>
  <OSDType>
   <!--dep, it is valid when enabled is "true", xs: string, "enter, leave,entreLeave,peoplePassing"-->
  </OSDType>
  <child><!--opt, xs: boolean, whether to enable OSD for children counting--></child>
 </OverlayConfiguration>
 <Demarcation><!--opt-->
  <enabled><!--req, xs: boolean--></enabled>
  <DemarcationRegionList><!--req-->
   <DemarcationRegion><!--opt-->
    <id><!--req, xs:integer--></id>
    <RegionCoordinatesList>
     <RegionCoordinates><!--req-->
      <positionX><!--req, xs:integer;coordinate--></positionX>
      <positionY><!--req, xs:integer;coordinate--></positionY>
     </RegionCoordinates>
    </RegionCoordinatesList>
   </DemarcationRegion>
  </DemarcationRegionList>
  <DemarcationLine>
   <StartPoint><!--req-->
    <positionX><!--req, xs: integer--></positionX>
    <positionY><!--req, xs: integer--></positionY>
   </StartPoint>
   <EndPoint><!--req-->
    <positionX><!--req, xs: integer--></positionX>
    <positionY><!-- req, xs: integer--></positionY>
```

```
    </EndPoint>
   </DemarcationLine>
 </Demarcation>
 <CountingRegionType><!--read-only, req, xs: string, detection type: "region,line"--></CountingRegionType>
 <CountingRegionList><!--opt, detection region list-->
  <CountingRegion><!--opt, detection region-->
   <id><!--req, xs: integer, detection region ID--></id>
   <Direction><!--req, detection direction-->
    <StartPoint><!--req-->
     <positionX><!--req, xs: integer--></positionX>
     <positionY><!--req, xs: integer--></positionY>
    </StartPoint>
    <EndPoint><!--req-->
     <positionX><!--req, xs: integer--></positionX>
     <positionY><!--req, xs: integer--></positionY>
    </EndPoint>
   </Direction>
   <sensitivityLevel><!--req, xs: integer, sensitibity--></sensitivityLevel>
   <spaceGenerationSpeed><!--opt, xs: integer--></spaceGenerationSpeed>
   <timeGenerationSpeed><!--opt, xs: integer--></timeGenerationSpeed>
   <countingSpeed><!--opt, xs: integer--></countingSpeed>
   <detectionType><!--opt, xs: string, "auto,head,shoulder"--></detectionType>
   <objectSizeCorrection><!--opt, xs: integer--></objectSizeCorrection>
   <RegionCoordinatesList><!--req-->
    <RegionCoordinates><!--req-->
     <positionX><!--req, xs: integer; x-coordinate--></positionX>
     <positionY><!--req, xs: integer; y-coordinate--></positionY>
    </RegionCoordinates>
   </RegionCoordinatesList>
   <RuleRegionCoordinatesList><!--opt, rule frame-->
    <RegionCoordinates><!--req-->
     <positionX><!--req, xs: integer; x-coordinate--></positionX>
     <positionY><!--req, xs: integer; y-coordinate--></positionY>
    </RegionCoordinates>
   </RuleRegionCoordinatesList>
  </CountingRegion>
 </CountingRegionList>
 <CountingLineItemList><!--opt, detection line list-->
  <CountingLineItem><!--opt, detection line-->
   <id><!--req, xs: integer, detection line ID--></id>
   <direction><!--req, detection line direction-->
    <StartPoint><!--req-->
     <positionX><!--req, xs: integer--></positionX>
     <positionY><!--req, xs: integer--></positionY>
    </StartPoint>
    <EndPoint><!--req-->
     <positionX><!--req, xs: integer--></positionX>
     <positionY><!--req, xs: integer--></positionY>
    </EndPoint>
   </direction>
   <sensitivityLevel><!--req, xs: integer, sensitivity--></sensitivityLevel>
   <spaceGenerationSpeed><!--opt, xs: integer--></spaceGenerationSpeed>
```

```
    <timeGenerationSpeed><!--opt, xs: integer--></timeGenerationSpeed>
    <countingSpeed><!--opt, xs: integer--></countingSpeed>
    <detectionType><!--opt, xs: string, "auto,head,shoulder"--></detectionType>
    <objectSizeCorrection><!--opt, xs: integer--></objectSizeCorrection>
    <LineCoordinatesList>
      <Coordinates><!--req-->
        <positionX><!--req, xs: integer; x-coordinate--></positionX>
        <positionY><!--req, xs: integer; y-coordinate--></positionY>
      </Coordinates>
    </LineCoordinatesList>
    <polyline>
      <!--opt, xs: boolean, this node should be set to "true" when displaying polyline; otherwise, this node does not
exist-->
    </polyline>
  </CountingLineItem>
 </CountingLineItemList>
 <dataUploadCycle>
  <!--opt, xs:integer, time period for uploading people counting data-->
 </dataUploadCycle>
 <SECUploadEnabled>
  <!--opt, xs:boolean, uploading mechanism for each second-->
 </SECUploadEnabled>
 <InterferenceSuppression><!--opt-->
  <shadow><!--opt, xs:boolean--></shadow>
  <loitering><!--opt, xs:boolean--></loitering>
  <cart><!--opt, xs:boolean--></cart>
 </InterferenceSuppression>
 <EmailReport><!--opt-->
  <DayReport><!--opt, xs:boolean--></DayReport>
  <WeekReport><!--opt, xs:boolean--></WeekReport>
  <MonthReport><!--opt, xs:boolean--></MonthReport>
  <YearReport><!--opt, xs:boolean--></YearReport>
  <reportFormat opt="excel,csv,txt,xml"><!--opt, xs: string, email report format, multiple formats can be selected, the
default format is EXCEL--></reportFormat>
 </EmailReport>
 <CountingCalibrate><!--req-->
  <calibrateType>
   <!--opt ,xs:string,"automatic,manual,no", calibration types, including Auto, Manual, and None-->
  </calibrateType>
  <SetupParam><!--req,-->
   <height>
    <!--opt, xs:float, height, unit: centimeter. The default height is 300, and it is ranging from 200 to 500-->
   </height>
   <tiltAngle>
    <!--opt, ro,xs:float, angle of pitch, unit: degree. The default value is 0, and it is ranging from 0 to 180-->
   </tiltAngle>
   <heelAngle>
    <!--opt, ro,xs:float, angle of inclination, unit: degree. The default value is 0, and it is ranging from -90 to 90 -->
   </heelAngle>
  </SetupParam>
  <CountingArea><!--req,ro,"Counting Region (in Red Frame)"-->
   <RegionCoordinatesList>
```

```
    <RegionCoordinates><!--req-->
     <positionX><!--req, xs:integer;coordinate--></positionX>
     <positionY><!--req, xs:integer;coordinate--></positionY>
    </RegionCoordinates>
   </RegionCoordinatesList>
  </CountingArea>
  <AutomaticCalib><!--opt,it is valid when calibrateType is "automaticCalib"-->
   <CalibRegion><!--opt, Calibration Region (in Green Frame)-->
    <RegionCoordinatesList>
     <RegionCoordinates><!--req-->
      <positionX><!-- req, xs:integer;coordinate --></positionX>
      <positionY><!--req, xs:integer;coordinate--></positionY>
     </RegionCoordinates>
    </RegionCoordinatesList>
   </CalibRegion>
  </AutomaticCalib>
 </CountingCalibrate>
 <HeightFilterOverlay><!--opt-->
  <enabled>
   <!--opt, xs:boolean, whether to enable height filter. By default, it is disabled-->
  </enabled>
  <heightFilter>
   <!--opt,xs:integer, filter height, unit: centimeter. The default value is 120, and it is ranging from 0 to 250-->
  </heightFilter>
 </HeightFilterOverlay>
 <countingType><!--opt, xs: string, method to trigger counting: "none,alarmInputTrigger,videoTrigger"--></
countingType>
 <signalType>
  <!--dep, xs: string, signal type: "level,pulses", this node is valid when <countingType> is set to "videoTrigger" or
"alarmInputTrigger"-->
 </signalType>
 <RS485TransmissionEnabled><!--dep, xs: boolen, "false,true"--></RS485TransmissionEnabled>
 <dailyResetTime>
  <!--opt; xs: ios_8601_time, integer hour, e.g., "22:00:00+08:00"-->
 </dailyResetTime>
 <streamOverlayRuleInfos><!--req, xs: boolean, "true,false", whether to enable overlaying rule information in stream--
></streamOverlayRuleInfos>
 <detectThreshold><!--opt, xs: integer, global detection threshold, value range: [0,100], default: 90--></
detectThreshold>
 <aidedTrackEnabled><!--opt, xs: boolean, "true,false", whether to enable auxiliary tracking, by default, it is enabled--
></aidedTrackEnabled>
 <TargetRegionCoordinatesList><!--opt, target frame, only supports square-->
  <RegionCoordinates><!--req-->
   <positionX><!--req, xs: integer; x-coordinate--></positionX>
   <positionY><!--req, xs: integer; y-coordinate--></positionY>
  </RegionCoordinates>
 </TargetRegionCoordinatesList>
 <ChildFilter><!--opt, counting children-->
  <enabled><!--req, xs: boolean, whether to enable counting children: true, false--></enabled>
  <heightThreshold>
   <!--dep, xs: integer, height threshold of children, the counting will start when the height of children is higher than
configured height threshold, unit: cm, value range: [100,200]-->
```

```
      </heightThreshold>
    </ChildFilter>
    <MisinfoFilter><!--opt, false alarm filtering-->
      <enabled><!--req, xs: boolean, whether to enable false alarm filtering: true, false--></enabled>
      <threshold><!--opt, xs: integer, threshold of false alarm filtering, value range: [0,100], default value: 15, larger
threshold value corresponds to higher precision--></threshold>
      <timesLimit><!--opt,xs:integer, judge times of false alarm, value range: [1,5], default value: 3, more attempts
corresponds to higher precision--></timesLimit>
    </MisinfoFilter>
    <detectionMode>
      <!--opt, xs: string, detection mode: single-detect based on tracking algorithm, double-detect based on depth map,
double_single-detect based on depth map mainly and tracking algorithm secondarily, single_double-detect based on
tracking algorithm mainly and depth map secondarily-->
    </detectionMode>
    <TrajectoryCountFilter><!--opt, pattern counting filtering-->
      <enabled><!--req, xs: boolean,whether to enable, by default, it is enabled--></enabled>
      <movementDisplacement><!--opt, xs: integer, displacement range: [0,200], default value: 40, unit: cm--></
movementDisplacement>
      <residenceTime><!--opt, xs: float, dwell time duration, range: [0,10.0], default value: 0.1, unit: second--></
residenceTime>
    </TrajectoryCountFilter>
    <RegionsDirectionList><!--opt, counting direction-->
      <RegionsDirection>
        <id><!--req, xs: integer, detection region ID--></id>
        <StartRegionCoordinatesList><!--req, start region-->
          <RegionCoordinates>
            <positionX><!--req, xs: integer; x-coordinate--></positionX>
            <positionY><!--req, xs: integer; y-coordinate--></positionY>
          </RegionCoordinates>
        </StartRegionCoordinatesList>
        <EndRegionCoordinatesList><!--req, end region-->
          <RegionCoordinates><!--req-->
            <positionX><!--req, xs: integer; x-coordinate--></positionX>
            <positionY><!--req, xs: integer; y-coordinate--></positionY>
          </RegionCoordinates>
        </EndRegionCoordinatesList>
      </RegionsDirection>
    </RegionsDirectionList>
    <maintenanceModeEnabled><!--opt, xs: boolean, whether to enable maintenance mode--></
maintenanceModeEnabled>
    <analysisMode>
      <!--optional, string, ro, analysis mode: "realTimeMode"-real time, "autoSwitchMode"-auto switch-->realTimeMode
    </analysisMode>
</Counting>
```

C.7 XML_CountingCap

CountingCap message in XML format

```
<CountingCap version="2.0" xmlns="http://www.hikvision.com/ver20/XMLSchema">
 <CountingRegionType><!--opt, xs: string, "line"--></CountingRegionType>
 <dataUploadCycle opt="1,5,10,15,20,30,60"><!--opt, xs: integer--></dataUploadCycle>
 <isSupportSECUpload><!--opt, xs: boolean--></isSupportSECUpload>
 <isSupportRecommendValue><!--opt, xs: boolean, "true,false"--></isSupportRecommendValue>
 <isSupportFlashRemoveCouting><!--opt, xs: boolean, "true"--></isSupportFlashRemoveCouting>
 <OSDType opt="enter,leave,enterLeave, none,enterPeoplePassing,pepplePassing"><!--opt, xs: string--></OSDType>
 <InterferenceSuppression><!--opt-->
   <shadow opt="true,false"><!--opt, xs: boolean--></shadow>
   <loitering opt="true,false"><!--opt, xs: boolean--></loitering>
   <cart opt="true,false"><!--opt, xs: boolean--></cart>
 </InterferenceSuppression>
 <EmailReport><!--opt-->
   <DayReport opt="true,false"><!--opt, xs: boolean--></DayReport>
   <WeekReport opt="true,false"><!--opt, xs: boolean--></WeekReport>
   <MonthReport opt="true,false"><!--opt, xs: boolean--></MonthReport>
   <YearReport opt="true,false"><!--opt, xs: boolean--></YearReport>
   <reportFormat opt="excel,csv,txt,xml"><!--opt, xs: string, email report format, multiple formats can be selected, the
default format is EXCEL--></reportFormat>
 </EmailReport>
 <CountingCalibrate><!--req-->
   <calibrateType opt="automatic,manual,no,smart"><!--opt, xs: string--></calibrateType>
   <SetupParam><!--req-->
    <height min="" max=""><!--opt, xs: float, unit: cm--></height>
    <tiltAngle min="" max=""><!--opt, read-only, xs: float--></tiltAngle>
    <heelAngle min="" max=""><!--opt, read-only, xs: float--></heelAngle>
   </SetupParam>
   <CountingArea><!--req, read-only, counting area (red frame)-->
    <RegionCoordinatesList size="">
      <RegionCoordinates><!--req-->
       <positionX><!--req, xs: integer; x-coordinate--></positionX>
       <positionY><!--req, xs: integer; y-coordinate--></positionY>
      </RegionCoordinates>
    </RegionCoordinatesList>
   </CountingArea>
   <AutomaticCalib><!--opt, dep, this node is valid when <calibrateType> is set to "automatic"-->
    <CalibRegion><!--opt, calibration area (green frame)-->
      <RegionCoordinatesList size="">
       <RegionCoordinates><!--req-->
         <positionX><!--req, xs: integer; x-coordinate--></positionX>
         <positionY><!--req, xs: integer; y-coordinate--></positionY>
       </RegionCoordinates>
      </RegionCoordinatesList>
    </CalibRegion>
   </AutomaticCalib>
 </CountingCalibrate>
 <HeightFilterOverlay><!--opt-->
   <enabled opt="true,false" default=""><!--opt, xs: boolean--></enabled>
   <heightFilter min="" max="" default=""><!--opt, xs: integer--></heightFilter>
 </HeightFilterOverlay>
 <isSupportCalibrate opt="true,false"><!--opt, xs: boolean--></isSupportCalibrate>
 <isSupportPosInfoOverlay opt="true,false"><!--opt, xs: boolean--></isSupportPosInfoOverlay>
```

```
<countingType opt="none,alarmInputTrigger,videoTrigger"/><!--opt, xs: string, method to trigger counting-->
<alarmInputTrigger_signalType opt="level,pulses"/><!--opt, xs: string-->
<videoTrigger_RS485Transmission opt="true,false" /><!--opt,xs:boolen-->
<isSupportCountingStatus><!--opt, xs: boolean--></isSupportCountingStatus>
<isSupportTriggerPeopleCountingDataSearch></isSupportTriggerPeopleCountingDataSearch>
<isSupportDailyResetTime><!--opt, whether supports resetting and clearing by schedule--></
isSupportDailyResetTime>
<Polyline><!--opt, whether supports polyline-->
  <maxPointNumber><!--req,xs:integer--></maxPointNumber>
</Polyline>
<isSupportBusDetectionArea>!--opt, whether supports vehicle-mounted pedal detection--></
isSupportBusDetectionArea>
<isSupportStreamOverlayRuleInfos><!--opt, whether supports overlaying intelligent information in stream--></
isSupportStreamOverlayRuleInfos>
<isSupportMobileDescribeChange><!--opt, whether supports editing the displayed parameter name of people
counting camera--></isSupportMobileDescribeChange>
<isSupportAdvanceConfiguration><!--opt, whether supports advanced configuration--></
isSupportAdvanceConfiguration>
<isSupportSearchDoorStates><!--opt, whether supports detecting door status triggered by signal of vehicle-mounted
device--></isSupportSearchDoorStates>
<isSupportRuleRegion><!--opt, xs: boolean, whether supports setting counting area--></isSupportRuleRegion>
<notSupportStatisticType opt="enternum,exitnum,peoplePassing">
  <!--dep, xs: string, this node is valid when <isSupportTriggerPeopleCountingDataSearch> is set to "true"-->
</notSupportStatisticType>
<detectThreshold min="0" max="100" def="90"><!--opt, xs: integer, detection threshold, range: [0,100] default
value: 90--></detectThreshold>
<aidedTrackEnabled opt="true,false" def="true"><!--opt, xs: boolean, whether to enable auxiliary tracking, by
default, it is enabled--></aidedTrackEnabled>
<SceneLimitCapList size="2"><!--opt, capability list of scene limit-->
  <SceneLimitCap><!--opt, capability of a scene limit-->
    <minTargetWidth><!--opt, xs: integer, normalized minimum width of target--></minTargetWidth>
    <maxTargetWidth><!--opt, xs: integer, normalized maximum width of target--></maxTargetWidth>
    <maxRuleRegionArea><!--opt, xs: integer, normalized maximum area of rule frame--></maxRuleRegionArea>
  </SceneLimitCap>
</SceneLimitCapList>
<targetRegionEdgesNum min="4" max="4"><!--opt, capability of frame edge quantity of targetregion--></
targetRegionEdgesNum>
<ruleRegionEdgesNum min="4" max="10">
  <!--dep, capability of edge quantity of rule frame, this node is valid when <isSupportRuleRegion> is set to true-->
</ruleRegionEdgesNum>
<ChildFilter><!--opt, counting children-->
  <enabled opt="true,false"><!--req, xs: boolean, whether to enable counting children--></enabled>
  <heightThreshold min="100" max="200" def="150">
    <!--dep, xs: integer, height threshold of children, the counting will start when the height of children is higher than
configured height threshold, unit: cm, value range: [100,200]-->
  </heightThreshold>
</ChildFilter>
<MisinfoFilter><!--opt, false alarm prevention-->
  <enabled opt="true,false"><!--req, xs: boolean, whether to enable false alarm filtering--></enabled>
  <threshold min="0" max="100" def="15">
    <!--opt, xs: integer, filtering threshold, value range: [0,100], default value: 15, larger threshold value corresponds to
higher precision-->
```

```
    </threshold>
    <timesLimit min="1" max="5" def="3">
      <!--opt, xs: integer, prevention attempts of false alarm, value range: [1,5], default value: 3, more attempts
corresponds to higher precision-->
    </timesLimit>
  </MisinfoFilter>
  <isSupportReverseAlarm><!--opt, xs: boolean, whether supports setting reverse counting alarm--></
isSupportReverseAlarm>
  <detectionMode opt="single,double,double_single,single_double" def="double_single">
    <!--opt, xs: string, detection mode: single-detect based on tracking algorithm, double-detect based on depth map,
double_single-detect based on depth map mainly and tracking algorithm secondarily, single_double-detect based on
tracking algorithm mainly and depth map secondarily-->
  </detectionMode>
  <TrajectoryCountFilter><!--opt, pattern counting filtering-->
    <enabled opt="true,false"><!--req, xs: boolean, whether to enable, by default, it is enabled--></enabled>
    <movementDisplacement min="0" max="200" def="40"><!--opt, xs: integer, motion displacement range: [0,200],
default value: 40, unit: cm--></movementDisplacement>
    <residenceTime min="0" max="10.0" def="0.1"><!--opt, xs: float, dwell time duration, range: [0,10.0], default value:
0.1, unit: second--></residenceTime>
  </TrajectoryCountFilter>
  <isSupportParameterExport><!--opt, xs: boolean, whether supports one-touch exporting people counting
parameters--></isSupportParameterExport>
  <MultiRegions min="" max="">
    <!--opt, xs: integer, number of counting regions, this node will not be returned if people counting in multiple regions
is not supported-->
  </MultiRegions>
  <isSupportRegionsDirection><!--opt, xs: boolean, whether supports setting counting direction--></
isSupportRegionsDirection>
  <maintenanceModeEnabled opt="true,false"><!--opt, xs: boolean, whether to enable maintenance mode--></
maintenanceModeEnabled>
  <analysisMode opt="realTimeMode,autoSwitchMode">
    <!--optional, string, ro, analysis mode: "realTimeMode"-real time, "autoSwitchMode"-auto switch. The engine also
has its analysis mode (refer to the analysisMode node in /ISAPI/Intelligent/analysisEngines/<ID>). The device will be
added to the engine with the same analysis mode via the load balancing method. If the engine is not configured
correspondingly, this node will be failed to e returned, and the error code of taskNotMatchEngine will be returned--
>test
  </analysisMode>
</CountingCap>
```

C.8 XML_CountingSearchCap

CountingSearchCap message in XML format

```
<CountingSearchCap version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
  <statisticType opt="enternum,exitnum,peoplePassing,all">
    <!--req, xs: string, enternum: number of entered people, exitnum: number of exited people, peoplePassing: number
of passed people, all: number of entered and exited people-->
  </statisticType>
  <reportType opt="daily,weekly,monthly,yearly">
    <!--req, xs: string-->
```

```
    </reportType>
    <timeSpanList size="">
      <timeSpan>
        <startTime><!--req, xs: datetime--></startTime>
        <endTIme><!--req, xs: datetime--></endTime>
      </timeSpan>
    </timeSpanList>
    <triggerPeopleCountingData opt="true,false">
      <!--opt, xs: boolean, whether triggers people counting statistics-->
    </triggerPeopleCountingData>
    <MinTimeInterval opt="quarter, half, hour, day, month, week"><!--opt, xs: string, minimum time interval--></
MinTimeInterval>
    <regionsID opt="1,2,3.."><!--opt, xs: integer, region ID, which supports report format--></regionsID>
    <isSupportChild><!--opt,xs: boolean, whether supports counting children only--></isSupportChild>
</CountingSearchCap>
```

C.9 XML_CountingStatus

CountingStatus message in XML format

```
<CountingStatus version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
  <status><!--req, xs: string, "counting,stopped,paused"--></status>
  <time><!--req, operation time (local time + time zone), e.g., "22:00:00+08:00"--></time>
  <doorStatus><!--opt, xs: string, door triggering status: "open,close,N_A"--></doorStatus>
</CountingStatus>
```

C.10 XML_Desc_VcaChanAbility

Input description message for getting intelligent device capability.

```
<?xml version="1.0" encoding="utf-8"?>
<!--req, description of input parameter pInBuf for getting intelligent device capability-->
<VcaChanAbility version="2.0">
    <channelNO><!--req, channel No.--></channelNO>
</VcaChanAbility>
```

C.11 XML_EventNotificationAlert_AlarmEventInfo

EventNotificationAlert message with alarm/event information in XML format.

```
<EventNotificationAlert version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
  <ipAddress><!--dep, xs:string, device IPv4 address--></ipAddress>
  <ipv6Address><!--dep, xs:string, device IPv6 address--></ipv6Address>
  <portNo><!--opt, xs:integer, device port number--></portNo>
  <protocol><!--opt, xs:string, protocol type for uploading alarm/event information, "HTTP,HTTPS"--></protocol>
  <macAddress><!--opt, xs:string, MAC address--></macAddress>
  <channelID><!--dep, xs:string, device channel No., starts from 1--></channelID>
```

```
<dateTime><!--req, alarm/event triggered or occurred time, format: 2017-07-19T10:06:41+08:00--></dateTime>
<activePostCount><!--req, xs:integer, alarm/event frequency, starts from 1--></activePostCount>
<eventType><!--req, xs:string, alarm/event type, "peopleCounting, ANPR,..."--></eventType>
<eventState>
  <!--req, xs:string, durative alarm/event status: "active"-valid, "inactive"-invalid, e.g., when a moving target is
detected,
   the alarm/event information will be uploaded continuously unit the status is set to "inactive"-->
</eventState>
<eventDescription><!--req, xs:string, alarm/event description--></eventDescription>
<...><!--opt, for different alarm/event types, the nodes are different, see the message examples in different
applications--></...>
</EventNotificationAlert>
```

C.12 XML_EventTrigger

Linkage parameter message in XML format

```
<EventTrigger version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <id><!--required, xs:string, ID--></id>
 <eventType>
   <!--required, xs:string, see details in the "Remarks" below-->
 </eventType>
 <eventDescription><!--optional, xs:string--></eventDescription>
 <inputIOPortID><!--dependent, xs:string, alarm input ID--></inputIOPortID>
 <dynInputIOPortID><!--dependent, xs:string, dynamic alarm input ID--></dynInputPortID>
 <videoInputChannelID>
   <!--dependent, xs:string, video input channel ID, it is valid when <eventType> is "VMD, videoloss, tamperdetection,
regionEntrance, regionExiting, loitering, group, rapidMove, parking, unattendedBaggage, attendedBaggage"-->
 </videoInputChannelID>
 <dynVideoInputChannelID><!--dependent, xs:string, dynamic video input channel ID--></dynVideoInputChannelID>
 <intervalBetweenEvents><!--optional, xs:integer, event time interval, unit: second--></intervalBetweenEvents>
 <WLSensorID><!--dependent, xs:string, ID--></WLSensorID>
 <EventTriggerNotificationList/><!--optional, alarm/event linkage actions, see details in the message of
XML_EventTriggerNotificationList-->
</EventTrigger>
```

Remarks

The node <eventType> can be the following values: IO, VMD, videoloss, raidfailure,
recordingfailure, badvideo, POS, analytics, fanfailure, overheat, tamperdetection, diskfull, diskerror,
nicbroken, ipconflict, illaccess, videomismatch, resolutionmismatch, radifailure, PIR, WLSensor,
spareException, poePowerException, heatmap, counting, linedetection, fielddetection,
regionEntrance, regionExiting, loitering, group,rapidMove, parking, unattendedBaggage,
attendedBaggage, HUMANATTRIBUTE, blackList, whitelist, peopleDetection, allVehicleList,
otherVehicleList, vehicledetection, storageDetection, shipsDetection, humanAttribute,
faceContrast, blackListFaceContrast, whiteListFaceContrast, faceSnap, faceLib,
personDensityDetection, personQueueDetecton, mixedTargetDetection, HVTVehicleDetection,
illegalParking, pedestrian, trafficAccident, construction, roadblock, abandonedObject,

parallelParking, parkingState, congestion, intersectionAnalysis, heatMap, thermometry, shipsFlowDetection, dredgerDetection, reverseEntrance, luma, highHDTemperature, lowHDTemperature, hdImpact, hdBadBlock, SevereHDFailure, safetyHelmetDetection, vibrationDetection, HBDLib,TMPA,faceThermometry,noMaskDetection, detectorTemp, detectorSmoke, detectorTamper, smokeFireRecognize, indoorPasswayBlock, detectorShelter, detectorMotion, fireNoRegulation.

See Also

XML_EventTriggerNotificationList

C.13 XML_EventTriggerNotification

Event linkage notification message in XML format

```
<EventTriggerNotification><!--opt-->
 <id><!--required, xs:string, device ID--></id>
 <notificationMethod>
   <!--required, xs:string, linkage actions, opt="email,IM,IO,syslog,HTTP,FTP,beep,ptz,record, monitorAlarm, center,
LightAudioAlarm,focus,trace,cloud,SMS,whiteLight,audio,whiteLight,faceContrast,siren,output"-->
 </notificationMethod>
 <notificationRecurrence>
   <!--optional, xs:string, "beginning,beginningandend,recurring"-->
 </notificationRecurrence>
 <notificationInterval><!--dependent, xs:integer, unit: millisecond--></notificationInterval>
 <outputIOPortID><!--dependent, xs:string, video output No., it is required only when notificationMethod is "IO"--></
outputIOPortID>
 <dynOutputIOPortID><!--dependent, xs:string, dynamic video output No., it is required only when
notificationMethod is "IO"--></dynOutputIOPortID>
 <videoInputID><!--dependent, xs:string, video input No., it is required only when notificationMethod is "record"--></
videoInputID>
 <dynVideoInputID><!--dependent, xs:string, dynamic video input No., it is required only when notificationMethod is
"record"--></dynVideoInputID>
 <ptzAction><!--dependent, it is required only when notificationMethod is "ptz"-->
   <ptzChannelID><!--required, xs:string, PTZ channel ID--></ptzChannelID>
   <actionName><!--required, xs:string, PTZ control type: "preset", "pattern", "patrol"--></actionName>
   <actionNum><!--dependent, xs:integer></actionNum>
 </ptzAction>
 <WhiteLightAction><!--dependent, white light linkage parameters, this node is valid when notificationMethod is
"whiteLight"-->
   <whiteLightDurationTime><!--required, xs:integer, white light flashing duration, it is between 1 and 60, unit:
second--></whiteLightDurationTime>
 </WhiteLightAction>
 <cellphoneNumber><!--dependent, xs:string, min="0" max="11",cellphone number--></cellphoneNumber-->
</EventTriggerNotification>
```

C.14 XML_EventTriggerNotificationList

EventTriggerNotificationList message in XML format

```
<EventTriggerNotificationList version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <EventTriggerNotification/><!--opt, see details in the message of XML_EventTriggerNotification-->
</EventTriggerNotificationList>
```

See Also

XML_EventTriggerNotification

C.15 XML_RacmCap

XML message about device storage capability

```
<?xml version="1.0" encoding="utf-8"?>
<RacmCap version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <isSupportZeroChan>
   <!--optional, xs:boolean, whether it supports channel-zero, "true"-yes, "false"-no-->
 </isSupportZeroChan>
 <inputProxyNums><!--optional, xs:integer, number of supported digital channels--></inputProxyNums>
 <eSATANums><!--optional, xs:integer, number of supported eSATAs--></eSATANums>
 <miniSASNums><!--optional, xs:integer, number of supported miniSATAs--></miniSASNums>
 <nasNums><!--optional, xs:integer, number of supported NASs--></nasNums>
 <ipSanNums><!--optional, xs:integer, number of supported IPSANs--></ipSanNums>
 <isSupportRaid>
   <!--optional, xs:boolean, whether it supports RAID, "true"-yes, "false"-no-->
 </isSupportRaid>
 <isSupportExtHdCfg>
   <!--optional, xs:boolean, whether it supports HDD advanced management, "true"-yes, "false"-no-->
 </isSupportExtHdCfg>
 <isSupportTransCode><!--optional, xs:boolean, whether it supports auto-switch, "true"-yes, "false"-no--></
isSupportTransCode>
 <isSupportIpcImport>
   <!--optional, xs:boolean, whether it supports importing configuration files to network camera, "true"-yes, "false"-
no-->
 </isSupportIpcImport>
 <NasMountType><!--optional-->
   <isNFSSupportAuthentication/><!--optional, xs:boolean, whether it supports NFS authentication, "true"-yes, "false"-
no-->
   <isCIFSSupportAuthentication/><!--optional, xs:boolean, whether it supports CIFS authentication, "true"-yes, "false"-
no-->
 </NasMountType>
 <isSupportIpcStreamType/><!--optional, xs:boolean-->
 <isSupportIOInputProxy/><!--optional, xs:boolean, whether it supports dynamic alarm input channel: "true"-yes,
"false"-no-->
 <isSupportIOOutputProxy/><!--optional, xs:boolean, whether it supports dynamic alarm output channel: "true"-yes,
"false"-no-->
```

```
 <isSupportPTZRs485Proxy/><!--optional, xs:boolean, whether it supports dynamic PTZ485 channel, "true"-yes,
"false"-no-->
 <isSupportSrcIDSearch/><!--optional, xs:boolean, whether it supports search by stream ID, "true"-yes, "false"-no-->
 <isSupportReversePlayback/><!--optional, xs:boolean, whether it supports reverse playback, "true"-yes, "false"-no-->
 <isSupportSMARTTest/><!--optional, xs:boolean, whether it supports HDD checking, "true"-yes, "false"-no-->
 <isSupportDownloadByTime/><!--optional, xs:boolean, whether it supports downloading by time, "true"-yes, "false"-
no-->
 <pictureSearchType
opt="AllEvent,CMR,MOTION,ALARM,EDR,ALARMANDMOTION,Command,pir,wlsensor,callhelp,facedetection,FieldDete
ction,scenechangedetection,LineDetection,regionEntrance,regionExiting,loitering,group,rapidMove,parking,unattende
dBaggage,attendedBaggage,vehicleDetection,manual,manualSnapShot,playSnapShot,allPic,evidence,illegalParking,cro
sslane,vehicleexist,lanechange,wrongdirection,congestion,turnround, parallelParking, pedestrian, construction,
roadblock, abandonedObject, trafficAccident, fogDetection, personQueueCounting,personQueueTime,
mixedTargetDetection, safetyHelmet, accessController, videoInterCom, GJD, Luminite, OPTEX, securityControlPanel,
playCellphone, vibrationDetection, ATMPanel, ATMSurround, ATMFace, ATMSafetyCabin,
temperatureIntervalMeasurement"/>
  <!--optional, xs:string, picture search conditions-->
 <recordSearchType
opt="AllEvent,CMR,MOTION,ALARM,EDR,ALARMANDMOTION,Command,pir,wlsensor,callhelp,facedetection,FieldDete
ction,scenechangedetection,LineDetection,regionEntrance,regionExiting,loitering,group,rapidMove,parking,unattende
dBaggage,attendedBaggage,vehicleDetection,manual,manualSnapShot,playSnapShot,AudioDetection,playCellphone,ru
nning,failDown,violentMotion,retention,allPerimeterEvent, allBehaviorEvent, vibrationDetection, ATMPanel,
ATMSurround, ATMFace, ATMSafetyCabin, temperatureIntervalMeasurement"/>
  <!--optional, xs:string, video search conditions-->
 <isSupportActivateIpc/><!--optional, xs:boolean, whether it supports activating network camera, "true"-yes, "false"-
no-->
 <isSupportCheckIpcSecurity><!--optional-->
  <isSupportCheckPassword/><!--optional, xs:boolean, whether it supports password verification, "true"-yes, "false"-
no-->
 </isSupportCheckIpcSecurity>
 <isSupportMainAndSubRecord/>
  <!--optional, xs:boolean, whether it supports recording in main stream or sub-stream, "true"-yes, "false"-no-->
 <isSupportSyncIPCPassword>
  <!--optional, xs:boolean, whether it supports synchronizing network camera's password, "true"-yes, "false"-no-->
 </isSupportSyncIPCPassword>
 <isSupportTransferIPC>
  <!--optional, xs:boolean, whether it supports network camera passthrough function, "true"-yes, "false"-no-->
 </isSupportTransferIPC>
 <isSupportPOS><!--optional, xs:boolean, whether it supports POS, "true"-yes, "false"-no--></isSupportPOS>
 <isSupportPassBackBasicCfg>
  <!--optional, xs:boolean, whether it supports the ANR basic function of CVR, "true"-yes, "false"-no-->
 </isSupportPassBackBasicCfg>
 <PassBackTaskConfig><!--optional, task management function of ANR-->
  <isSupportAddTask><!--optional, xs:boolean, whether it supports adding task, "true"-yes, "false"-no--></
isSupportAddTask>
  <isSupportSearchTask><!--optional, xs:boolean, whether it supports task search, "true"-yes, "false"-no--></
isSupportSearchTask>
  <isSupportControlTask><!--optional, xs:boolean, whether it supports task control, "true"-yes, "false"-no--></
isSupportControlTask>
  <isSupportDeleteTask><!--optional, xs:boolean, whether it supports deleting task, "true"-yes, "false"-no--></
isSupportDeleteTask>
 </PassBackTaskConfig>
```

```
<PassBackPlanConfig><!--optional, task plan of ANR-->
 <isSupportAddPlan><!--optional, xs:boolean, whether it supports adding plan, "true"-yes, "false"-no--></
isSupportAddPlan>
 <isSupportSearchPlan><!--optional, xs:boolean, whether it supports plan search, "true"-yes, "false"-no--></
isSupportSearchPlan>
 <isSupportDeletePlan><!--optional, xs:boolean, whether it supports deleting plan, "true"-yes, "false"-no--></
isSupportDeletePlan>
</PassBackPlanConfig>
<IRAIDCap/><!--optional, network RAID-->
<isSupportStorageExtraInfo>
 <!--optional, xs:boolean, whether it supports configuring storage additional information, "true"-yes, "false"-no-->
</isSupportStorageExtraInfo>
<isSupportRecordStatus><!--optional, xs:boolean--></isSupportRecordStatus>
<supportAIDTFSType opt="illegalParking,wrongdirection crosslane,vehicleexist,lanechange, turnround, evidence"/>
 <!--optional, xs:string, event picture search conditions supported by both AID and TFS-->
<isSupportRacmChannelsCap><!--optional, xs:boolen--></isSupportRacmChannelsCap>
<LockCap/><!--optional, lock or unlock video-->
<isSupportForamtAll><!--optional, xs:boolean, "true,false"--></isSupportForamtAll>
<isSupportExtendCabinetCfg>
 <!--optional, xs:boolean, whether it supports enclosure configuration-->
</isSupportExtendCabinetCfg>
<diskGroupNums><!--optional, xs:integer, number of supported HDD groups--></diskGroupNums>
<isSupportCountingSearchByUTC><!--optional, xs:boolean, whether it supports searching people counting results by
UTC time--></isSupportCountingSearchByUTC>
<isSupportPlaybackReverseByUTC><!--optional, xs:boolean, whether it supports reverse playback by UTC time--></
isSupportPlaybackReverseByUTC>
<isSupportWebPrivatePlaybackByUTC>
 <!--optional, xs: boolean, whether it supports playback based on Web private protocol-->
</isSupportWebPrivatePlaybackByUTC>
<isSupportFindCommonFileByUTC>
 <!--optional, xs: boolean, whether it supports extending the time zone for searching files-->
</isSupportFindCommonFileByUTC>
 <isSupportFindEventFileByUTC><!--optional, xs: boolean, whether it supports extending the time zone for searching
files by event-->
</isSupportFindEventFileByUTC>
<isSupportSmartSearchRecordByUTC>
 <!--optional, xs: boolean, whether it supports extending the time zone for VCA search-->
</isSupportSmartSearchRecordByUTC>
<isSupportMRDSearchByTimeZone>
 <!--optional, xs: boolean, whether it supports extending the time zone for searching files by calendar-->
</isSupportMRDSearchByTimeZone>
<isSupportSearchRecordLabelByUTC>
 <!--optional, xs: boolean, whether it supports extending the time zone for searching video tags-->
</isSupportSearchRecordLabelByUTC>
<isSupportSearchPictureByUTC>
 <!--optional, xs: boolean, whether it supports extending the time zone for searching pictures-->
</isSupportSearchPictureByUTC>
<isSupportSmartSearchPictureByUTC>
 <!--optional, xs: boolean, whether it supports extending the time zone for searching pictures with smart
information-->
</isSupportSmartSearchPictureByUTC>
<isSupportFindLogByUTC>
```

```
  <!--optional, xs: boolean, whether it supports extending the time zone for searching log-->
</isSupportFindLogByUTC>
<isSupportUploadRecordByUTC>
  <!--optional, xs: boolean, whether it supports extending the time zone for uploading files to cloud storage-->
</isSupportUploadRecordByUTC>
<isSupportPlaybackByUTC>
  <!--optional, xs: boolean, whether it supports extending the time zone for playback by time and locating by time-->
</isSupportPlaybackByUTC>
<SecurityLog>
  <isSupportSecurityLog><!--optional, boolean, whether it supports security log--></isSupportSecurityLog>
  <isSupportLogServer><!--optional, boolean, whether it supports log server configuration--></isSupportLogServer>
  <isSupportLogServerTest><!--optional, xs: boolean, whether it supports log server test--></isSupportLogServerTest>
  <SecurityLogTypeList><!--required, xs: list, supported log type list-->
    <SecurityLogType>
      <primaryType><!--required, xs: string, major type--></primaryType>
      <secondaryType optional=""><!--required, xs: string, minor type--></secondaryType>
    </SecurityLogType>
  </SecurityLogTypeList>
</SecurityLog>
<iSptInputProxyChanCap>
  <!--optional, xs:boolean, whether it supports getting the capability of the digital channel-->
</iSptInputProxyChanCap>
<isSupportLogDataPackage>
  <!--optional, xs:boolean, whether it supports exporting logs: "true, false"-->
</isSupportLogDataPackage>
<logSearchTimeSpanNums>
  <!--optional, xs:integer, supported number of time periods for log search-->
</logSearchTimeSpanNums>
<isSupportManualRecord>
  <!--optional, xs:boolean, whether the device supports manual recording-->
</isSupportManualRecord>
<isSupportRemark><!--optional, xs:boolean, whether it supports file remarks--></isSupportRemark>
<FileUpload><!--optional, upload file-->
  <enabled><!--required, xs:boolean, whether it supports enabling file uploading--></enabled>
</FileUpload>
<PoliceInfoUpload><!--optional, upload police information-->
  <enabled><!--required, xs:boolean, whether it supports enabling police information uploading--></enabled>
</PoliceInfoUpload>
<PoliceInfo>
  <policeID><!--optional, xs:boolean, whether it supports police ID--></policeID>
  <policeCode><!--optional, xs:boolean, whether it supports police No.--></policeCode>
  <policeName><!--optional, xs:boolean, whether it supports police name--></policeName>
  <password><!--optional, xs:boolean, whether it supports police password--></password>
  <deviceID><!--optional, xs:boolean, whether it supports device ID--></deviceID>
</PoliceInfo>
<behaviorEventPicSearch
opt="allBehaviorEvent,running,group,violentMotion,failDown,playCellphone,peopleNumChange,leavePosition,retention,sleepOnduty">
  <!--optional, xs:string, behavior analysis events supported by picture search, which is used for web display,
"allBehaviorEvent"-all events in behaviorEventPicSearch-->
</behaviorEventPicSearch>
<perimeterEventPicSearch
```

```
opt="allPerimeterEvent,linedetection,fielddetection,regionEntrance,regionExiting,loitering">
  <!--optional, xs:string, perimeter protection events that support picture search, which is used for web display,
"allPerimeterEvent"-all events in perimeterEventPicSearch-->
 </perimeterEventPicSearch>
 <isSupportAssignChannelID><!--optional, xs:boolean, whether it supports specify channel No. when adding IPC--></
isSupportAssignChannelID>
 <isSupportAssignStreamID><!--optional, xs:boolean, whether it supports specify stream ID of the channel when
adding IPC--></isSupportAssignStreamID>
 <isSupportTimeSearch><!--optional, xs:boolean, whether it supports searching for recording start and end time by
channel--></isSupportTimeSearch>
 <CloudStorageServerCap><!--optional-->
  <isSupportCloudStorageParameter><!--optional, xs:boolean, whether it supports configuring cloud storage
parameters--></isSupportCloudStorageParameter>
  <isSupportCloudStoragePool><!--optional, xs:boolean, whether it supports configuring cloud storage pool
parameters--></isSupportCloudStoragePool>
 </CloudStorageServerCap>
 <CMSearchCount/><!--optional, xs:boolean, whether it supports searching for file quantity of dock station-->
 <isSupportSSDSMARTTest>
  <!--optional, xs:boolean, whether the device supports SSD S.M.A.R.T detection (related URI: /ISAPI/ContentMgmt/
Storage/ssd/<ID>/SMARTTest/start)-->
 </isSupportSSDSMARTTest>
 <isSupportSpare><!--optional, boolean, whether the device supports hot spare configuration--></isSupportSpare>
 <isSupportPTEventTableTemplate><!--optional,xs:boolean, whether the device supports importing/exporting Excel
templates of transparent transmission event type (related URI: /ISAPI/ContentMgmt/PTEventTableTemplate?
format=json)--></isSupportPTEventTableTemplate>
 <isSupportPTEventTableFile><!--optional,xs:boolean, whether the device supports importing/exporting the Excel files
of transparent transmission event type (related URI: /ISAPI/ContentMgmt/PTEventTableFile?format=json)--></
isSupportPTEventTableFile>
</RacmCap>
```

C.16 XML_ResponseStatus

XML message about response status

```
<?xml version="1.0" encoding="utf-8"?>
<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>
```

```
<MErrCode>
  <!--optional, xs:string, error code categorized by functional modules, e.g., 0x12345678-->
</MErrCode>
<MErrDevSelfEx>
  <!--optional, xs:string, extension field of MErrCode. It is used to define the custom error code, which is categorized
by functional modules-->
</MErrDevSelfEx>
</ResponseStatus>
```

C.17 XML_Schedule

Schedule message in XML format

```
<Schedule version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <id><!--required, xs:string, ID--></id>
 <eventType>
  <!--optional, xs:string, alarm/event types, see details in the "Remarks" below-->
 </eventType>
 <inputIOPortID><!--read-only, dependent, xs:string, alarm input No.--></inputIOPortID>
 <outputIOPortID><!--read-only, dependent, xs:string, alarm output No.--></inputIOPortID>
 <videoInputChannelID><!--read-only, dependent, xs:string, video input channel ID--></videoInputChannelID>
 <TimeBlockList size="8"><!--required-->
  <TimeBlock><!--list-->
   <dayOfWeek>
    <!--optional, xs:integer, day of the week based on ISO8601, "1"=Monday, ...-->
   </dayOfWeek>
   <TimeRange><!--required-->
    <beginTime><!--required, xs:time, ISO 8601 time--></beginTime>
    <endTime><!--required, xs:time, ISO 8601 time--></endTime>
   </TimeRange>
   <CustomExtension>
    <vehicleDetectSceneID>
     <!--required, xs:interger-->
    </vehicleDetectSceneID>
   </CustomExtension>
  </TimeBlock>
 </TimeBlockList>
 <HolidayBlockList><!--optional-->
  <TimeBlock><!--list-->
   <TimeRange><!--required-->
    <beginTime><!--required, xs:time, ISO 8601 time--></beginTime>
    <endTime><!--required, xs:time, ISO 8601 time--></endTime>
   </TimeRange>
  </TimeBlock>
 </HolidayBlockList>
</Schedule>
```

Remarks

The node <**eventType**> can be set to the following values: IO, VMD,videoloss, PIR,linedetection, fielddetection, audioexception, facedetection, regionEntrance, regionExiting, loitering, group, rapidMove, parking, unattendedBaggage,attendedBaggage, storageDetection, shipsDetection, HUMANATTRIBUTE, humanAttribute, faceContrast, faceSnap, faceLib, whiteListFaceContrast, personDensityDetection, personQueueDetection, mixedTargetDetection, fireDetection, illegalParking, pedestrian, trafficAccident,construction, roadblock, abandonedObject, parallelParking, parkingState, congestion, intersectionAnalysis, heatMap, reverseEntrance, vehicledetect, safetyHelmetDetection, vibrationDetection, TMPA, faceThermometry, HBDLib, detectorTemp, detectorSmoke, detectorTamper, smokeFireRecognizesmokeFireRecognize, indoorPasswayBlock, detectorShelter, detectorMotion, fireNoRegulation, peopleDetections.

C.18 XML_Smart_Shield

Shield message in XML format for smart detection

```
<Shield version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <enabled><!--req, xs: string, whether to enable shielded area for smart detection: "true,false"--></enabled>
 <RegionList>
  <Region><!--list-->
   <id><!--req, xs: string--></id>
   <enabled><!--req, xs: string, "true,false"--></enabled>
   <RegionCoordinatesList>
    <RegionCoordinates><!--req, list-->
     <positionX><!--req, xs: integer, x-coordinate--></positionX>
     <positionY><!--req, xs: integer, y-coordinate--></positionY>
    </RegionCoordinates>
   </RegionCoordinatesList>
  </Region>
 </RegionList>
</Shield>
```

C.19 XML_Smart_ShieldCap

XML message about shield area configuration capability

```
<ShieldCap version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <enabled opt="true,false"><!--req, xs: string--></enabled>
 <RegionList size="">
  <Region><!--list-->
   <id><!--req, xs: string--></id>
   <enabled opt="true,false"><!-- req, xs:string ""--></enabled>
   <RegionCoordinatesList size="">
    <RegionCoordinates><!--req, list-->
     <positionX><!--req, xs: integer, x-coordinate--></positionX>
     <positionY><!--req, xs: integer, y-coordinate--></positionY>
```

```
    </RegionCoordinates>
   </RegionCoordinatesList>
   <minRegionCoordinatesNum><!--optional, int, the minimum number of polygon vertexes; value range: [4,10]-->4</
minRegionCoordinatesNum>
   <maxRegionCoordinatesNum><!--optional, int, the maximum number of polygon vertexes; value range: [4,10]--
>10</maxRegionCoordinatesNum>
   </Region>
 </RegionList>
 <normalizedScreenSize><!--optional, object, normalized screen size-->
   <normalizedScreenWidth><!--optional, int, normalized screen width, range: [0,1000], 1000 by default-->1000</
normalizedScreenWidth>
   <normalizedScreenHeight><!--optional, int, normalized screen height, range: [0,1000], 1000 by default-->1000</
normalizedScreenHeight>
 </normalizedScreenSize>
 <eventType opt="regionEntrance,regionExiting,linedetection,fielddetection">
   <!--optional, string, event type: "regionEntrance", "regionExiting", "linedetection", and "fielddetection" --
>regionEntrance
 </eventType>
</ShieldCap>
</ShieldCap>
```

C.20 XML_VcaChanAbility

VcaChanAbility message in XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<VcaChanAbility><!--req, VCA capability-->
 <channelNO><!--channel No.--></channelNO>
 <restartLib><!--whether to support restarting algorithm library--></restartLib>
 <vcaVersion><!--whether to support viewing version information of algorithm library--></vcaVersion>
 <syncChannelName><!--whether to support setting the channel name of synchronization analyzer to the camera
name--></syncChannelName>
 <VcaDrawMode><!--intelligent information overlay-->
   <dspEncAddTarget opt="true,false"/><!--character overlay target-->
   <dspEncAddRule opt="true,false"/><!--character overlay rule-->
   <dspPicAddTarget opt="true,false"/><!--picture overlay target-->
   <dspPicAddRule opt="true,false"/><!--picture overlay rule-->
 </VcaDrawMode>
 <AlarmPicResolutionList><!--alarm picture resolution-->
   <picResolutionEntry index="3" name="UXGA" resolution="1600*1200"/>
   <picResolutionEntry index="4" name="SVGA" resolution="800*600"/>
   <picResolutionEntry index="5" name="HD720P" resolution="1280*720"/>
   <picResolutionEntry index="6" name="VGA" resolution="640*480"/>
 </AlarmPicResolutionList>
 <GlobalSizeFilter><!--global size filter-->
   <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
   <!--filter mode, "imagePixel"-by pixel size,"realWorld"-by actual size, "default"-->
   <minRect><!--minimum target frame--></minRect>
   <maxRect><!--maximum target frame--></maxRect>
 </GlobalSizeFilter>
```

```
<Behavior><!--behavior analysis-->
 <EventType-->
  <BlackboardWriting><!--blackboard writing-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
  </BlackboardWriting>
  <Lecture><!--teaching-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
   <duration min="0" max="10" default="5"/>
   <!--triggered time threshold of behavior analysis event-->
   <trackingMode opt="auto,horizontal,vertical" default="auto"/>
   <!--tracking mode-->
   <zoomMode opt="fixed,auto" default="fixed"/>
   <!--zooming mode-->
   <SizeFilter>
    <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
    <!--filter mode, "imagePixel"-by pixel size, "realWorld"-by actual size, "default"-->
    <minRect><!--minimum target frame--></minRect>
    <maxRect><!--maximum target frmae--></maxRect>
   </SizeFilter>
  </Lecture>
  <Answer><!--answering-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
   <SizeFilter>
    <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
    <!--filter mode, "imagePixel"-by pixel size, "realWorld"-by actual size, "default"-->
    <minRect><!--minimum target frame--></minRect>
    <maxRect><!--maximum target frmae--></maxRect>
   </SizeFilter>
  </Answer>
  <TraversePlane><!--plane crossing-->
   <planeBottom><!--plane bottom border--></planeBottom>
   <crossDirection opt="bothDirection,leftToRight,rFaceSnapightToLeft" default="bothDirection"/>
   <!--crossing direction, "bothDirection"-dual-direction, "leftToRight"-left to right, "rightToLeft"-right to left-->
   <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
   <planeHeight min="0" max="255" default="5"/><!--plane height-->
   <detectionTarget opt="all,human,vehicle, human_vehicle"/>
   <!--detection target: "all", "human", "vehicle", "human_vehicle"-human and vehicle-->
   <eventPriority opt="low,mid,high"/>
   <!--opt, event priority: "low", "mid"-medium, "high"-->
   <isSupportHumanMisinfoFilter>
    <!--opt, xs:boolean, whether to support preventing false human body alarms, "true"-yes, "false"-no-->
   </isSupportHumanMisinfoFilter>
   <isSupportVehicleMisinfoFilter>
    <!--opt, xs:boolean, whether to support preventing false vehicle alarms, "true"-yes, "false"-no-->
```

```
  </isSupportVehicleMisinfoFilter>
 </TraversePlane>
 <EnterArea><!--region entrance-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <detectionTarget opt="all,human,vehicle, human_vehicle"/>
  <!--detection target: "all", "human", "vehicle", "human_vehicle"-human and vehicle-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
  <isSupportHumanMisinfoFilter>
   <!--opt, xs:boolean, whether to support preventing false human body alarms, "true"-yes, "false"-no-->
  </isSupportHumanMisinfoFilter>
  <isSupportVehicleMisinfoFilter>
   <!--opt, xs:boolean, whether to support preventing false vehicle alarms, "true"-yes, "false"-no-->
  </isSupportVehicleMisinfoFilter>
 </EnterArea>
 <ExitArea><!--region exiting-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <detectionTarget opt="all,human,vehicle"/>
  <!--detection target: "all", "human", "vehicle", "human_vehicle"-human and vehicle-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
  <isSupportHumanMisinfoFilter>
   <!--opt, xs:boolean, whether to support preventing false human body alarms, "true"-yes, "false"-no-->
  </isSupportHumanMisinfoFilter>
  <isSupportVehicleMisinfoFilter>
   <!--opt, xs:boolean, whether to support preventing false vehicle alarms, "true"-yes, "false"-no-->
  </isSupportVehicleMisinfoFilter>
 </ExitArea>
 <Intrusion><!--intrusion-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="0" max="100" default="5"/>
  <!--triggered time threshold of intrusion alarm-->
  <sensitivity min="1" max="100" default="50"/><!--sensitivity-->
  <rate min="1" max="100" default="5"/><!--percentage-->
  <detectionTarget opt="all,human,vehicle, human_vehicle"/>
  <!--detection target: "all", "human", "vehicle", "human_vehicle"-human and vehicle-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
  <isSupportHumanMisinfoFilter>
   <!--opt, xs:boolean, whether to support preventing false human body alarms, "true"-yes, "false"-no-->
  </isSupportHumanMisinfoFilter>
  <isSupportVehicleMisinfoFilter>
   <!--opt, xs:boolean, whether to support preventing false vehicle alarms, "true"-yes, "false"-no-->
  </isSupportVehicleMisinfoFilter>
 </Intrusion>
 <Loiter><!--loitering-->
```

```
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="1" max="120" default="10"/><!--triggered time threshold-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
  <loiterDistance min="100" max="5000" default="1000"/>
  <!--opt, total distance threshold of loitering, unit: cm-->
</Loiter>
<LeftTake><!--object left and removal-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="1" max="120" default="10"/><!--triggered time threshold-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
</LeftTake>
<Parking><!--parking-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="1" max="100" default="10"/><!--triggered time threshold-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
</Parking>
<Run><!--running-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <distance min="0.1" max="1.0" default="0.5"/>
  <!--maximum distance of people running-->
  <mode opt="imagePixel,realWorld" default="imagePixel"/>
  <!--filter mode: "imagePixel"-by pixel size, "realWorld"-by actual size-->
  <ImagePixelMode><!--parameters for filter mode by pixel size-->
   <distance min="0.1" max="1.0" default="0.5"/>
   <!--maximum distance of people running-->
  </ImagePixelMode>
  <RealWorldMode><!--parameters for filter mode by actual size-->
   <distance min="1" max="20" default="10"/>
   <!--maximum distance of people running-->
  </RealWorldMode>
  <detectionTarget opt="all,human,vehicle,human_vehicle"/>
  <!--detection target: "all", "human", "vehicle", "human_vehicle"-human and vehicle-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
</Run>
<HighDensity><!--people gathering-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <density min="0.1" max="1.0" default="0.5"/><!--density ratio-->
  <duration min="20" max="360" default="20"/>
```

```
  <!--triggered parameter threshold of people gathering alarm-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
 </HighDensity>
 <ViolentMotion><!--violent motion-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="1" max="120" default="50"/><!--triggered time threshold-->
  <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
  <mode opt="video,audio,videoAndAudio" default="video"/>
  <!--"video"-video only mode, "audio"-audio only mode, "videoAndAudio"-video and audio mode-->
 </ViolentMotion>
 <ReachHeight><!--climbing-->
  <planeBottom><!--plane climbing--></planeBottom>
  <duration min="1" max="120" default="10"/>
  <!--triggered threshold of climbing alarm-->
 </ReachHeight>
 <GetUp><!--getting up-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="1" max="100" default="10"/>
  <!--triggered threshold of getting up alarm-->
  <sensitivity min="1" max="10" default="10"/><!--sensitivity-->
  <mode opt="overBed,areaMove,sitting" default="overBed"/>
  <!--"overBed"-wide bed mode, "areaMove"-bunk bed mode, "sitting"-wide bed sitting and getting up mode-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
 </GetUp>
 <Left><!--unattended baggage-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="10" max="100" default="10"/>
  <!--triggered threshold of unattended baggage alarm-->
  <sensitivity min="1" max="5"  default="5"/><!--sensitivity-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
 </Left>
 <Take><!--object removal-->
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
  <duration min="10" max="100"  default="10"/>
  <!--triggered threshold of object removal alarm-->
  <sensitivity min="1" max="5"  default="5"/><!--sensitivity-->
  <eventPriority opt="low,mid,high"/>
  <!--opt, event priority: "low", "mid"-medium, "high"-->
 </Take>
 <LeavePosition><!--absence-->
  <Region>
```

```
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <leaveDelay min="1" max="1800" default="120"/>
   <!--absence alarm time-->
   <staticDealy min="1" max="1800" default="120"/>
   <!--sleeping alarm time-->
   <mode opt="leave,sleep,leaveAndSleep" default="leave"/>
   <!--"leave"-absence, "sleep"-sleeping, "leaveAndSleep"-absence and sleeping-->
   <personType opt="single,couple" default="single"/>
   <!--duty mode: "single"-single people on duty, "couple"-double people on duty-->
   <OnPosition min="1" max="10" default="1"/><!--number of people on duty-->
  </LeavePosition>
  <Trail><!--tailgating-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
  </Trail>
  <KeyPersonGetUp><!--key person getting up-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <duration min="1" max="100" default="20"/>
   <!--triggered threshold of getting up alarm-->
   <sensitivity min="1" max="10" default="5"/><!--sensitivity-->
   <mode opt="overBed,areaMove,sitting" default="overBed"/>
   <!--"overBed"-wide bed mode, "areaMove"-bunk bed mode, "sitting"-wide bed sitting and getting up mode-->
  </KeyPersonGetUp>
  <FallDown><!--people falling down-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <duration min="1" max="60" default="30"/><!--triggered time threshold-->
   <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
   <heightThreshold min="10" max="100"/>
   <!--triggered height threshold of people falling down alarm, unit: cm-->
  </FallDown>
  <AudioAbnormal><!--sudden change of sound intensity-->
   <decibel min="1" max="255" default="50"/><!--sound intensity-->
   <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
   <audioMode opt="sensitivity,decibel,sensitivityAndDecibel" default="sensitivity"/>
   <!--"sensitivity"-sensitivity detection, "decibel"-decibel threshold detection, "sensitivityAndDecibel"-sensitivity
and decibel threshold detection-->
   <enabled><!--enable mark--></enabled>
   <threshold min="0" max="100" default="80"/><!--sound threshold-->
  </AudioAbnormal>
  <ADVReachHeight><!--polyline climbing-->
   <Region>
    <vertexNum min="2" max="10"/><!--number of region vertexes-->
   </Region>
   <crossDirection opt="bothDirection,leftToRight,rightToLeft" default="bothDirection"/>
   <!--crossing direction: "bothDirection"-dual-direction, "leftToRight"-left to right, "rightToLeft"-right to left-->
```

```
</ADVReachHeight>
<ToiletTarry><!--in-toilet overtime-->
 <Region>
  <vertexNum min="3" max="10"/><!--number of region vertexes-->
 </Region>
 <duration min="1" max="3600" default="600"/><!--time of in-toilet overtime-->
</ToiletTarry>
<YardTarry><!--playground overstay-->
 <Region>
  <vertexNum min="3" max="10"/><!--number of region vertexes-->
 </Region>
 <duration min="1" max="120" default="60"/><!--time of playground overstay-->
</YardTarry>
<ADVTraversePlane><!--plane polyline crossing-->
 <Region>
  <vertexNum min="2" max="10"/><!--number of region vertexes-->
 </Region>
 <crossDirection opt="bothDirection,leftToRight,rightToLeft" default="bothDirection"/>
 <!--crossing direction: "bothDirection"-dual-direction, "leftToRight"-left to right, "rightToLeft"-right to left-->
 <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
</ADVTraversePlane>
<OverTime><!--operation timeout-->
 <Region>
  <vertexNum min="3" max="10"/><!--number of region vertexes-->
 </Region>
 <duration min="4" max="60000" default="30000"/>
 <!--triggered time threshold of operation timeout alarm-->
</OverTime>
<StickUp><!--sticking-->
 <Region>
  <vertexNum min="3" max="10"/><!--number of region vertexes-->
 </Region>
 <duration min="4" max="60" default="30"/><!--triggered time threshold-->
 <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
</StickUp>
<InstallScanner><!--installing card reader-->
 <Region>
  <vertexNum min="3" max="10"/><!--number of region vertexes-->
 </Region>
 <duration min="4" max="60" default="30"/><!--card reading duration-->
 <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
</InstallScanner>
<Standup><!--people standing up-->
 <Region>
  <vertexNum min="3" max="10"/><!--number of region vertexes-->
 </Region>
 <sensitivity min="1" max="100" default="5"/><!--sensitivity-->
 <duration min="1" max="3600" default="2"/><!--triggered time threshold-->
 <heightThreshold min="0" max="250" default="130"/><!--height threshold-->
</Standup>
<PeopleNumChange><!--number of people exception-->
 <Region>
```

```
      <vertexNum min="3" max="10"/><!--number of region vertexes-->
     </Region>
     <sensitivity min="1" max="100" default="5"/><!--sensitivity-->
     <peopleNumThreshold min="0" max="5" default="1"/>
     <!--number of people threshold-->
     <detectMode opt="greaterthan,lessthan,equal,notEqual"/>
     <!--detection mode: "greaterthan"-greater than, "lessthan"-less than, "equal"-equal to, "notEqual"-not equal to-->
     <noneStateEffective opt="true,false"/>
     <!--whether it is valid when there are no people-->
     <duration min="1" max="3600" default="2"/><!--triggered time threshold-->
    </PeopleNumChange>
    <SpacingChange><!--space distance exception-->
     <Region>
      <vertexNum min="3" max="10"/><!--number of region vertexes-->
     </Region>
     <sensitivity min="1" max="100" default="5"/><!--sensitivity-->
     <spacingThreshold min="0" max="10.0" default="1.0"/><!--space distance threshold-->
     <detectMode opt="greaterthan,lessthan,equal,notEqual"/>
     <!--detection mode: "greaterthan"-greater than, "lessthan"-less than, "equal"-equal to, "notEqual"-not equal to-->
     <duration min="1" max="3600" default="2"/><!--triggered time threshold-->
    </SpacingChange>
    <CombinedRule><!--combined rule-->
     <supportCombinedRule min="" max=""/>
     <relateRuleID min="" max=""/>
     <ruleSequence opt="ascending, ascendingOrDescending"/>
     <minTimeInterval min="" max=""/>
     <maxTimeInterval min="" max=""/>
     <rule1ID min="" max=""/>
     <rule2ID min="" max=""/>
    </CombinedRule>
    <SitQuietly><!--opt, sitting quietly-->
     <duration min="" max=""/><!--req, duration -->
    </SitQuietly>
    <HighDensityStatus><!--people gathering status-->
     <Region>
      <vertexNum min="3" max="10"/><!--number of region vertexes-->
     </Region>
     <density min="0.1" max="1.0" default="0.5"/><!--density ratio-->
     <sensitivity min="1" max="5"/><!--sensitivity-->
    </HighDensityStatus>
    <FakeCard><!--fake card detection->
     <Region>
      <vertexNum min="3" max="10"/> <!--number of region vertexes-->
     </Region>
     <sensitivity min="1" max="5"  default="3"/><!--sensitivity-->
     <eventPriority opt="low,mid,high"/><!--optional, event priority: 0-low, 1-medium, 2-high"-->
    </FakeCard>
   </EventType>
   <BehaviorRule><!--behavior rule-->
    <picProcType opt="notProcess,upload"/>
    <!--picture processing method: "notProcess"-not process, "upload"-upload-->
    <uploadLastAlarm opt="false,true"/><!--upload the latest alarm-->
```

```
<picRecordEnable opt="false,true"/><!--picture storage-->
<JpegParam>
 <picSize><!--picture size--></picSize>
 <picQuality opt="best,better,normal"/>
 <!--picture quality: "best", "better", "normal"-->
</JpegParam>
<maxRelSnapChanNum><!--maximum number of capture linkage channels--></maxRelSnapChanNum>
<RuleEntryList>
 <maxRuleNum><!--maximum number of rules--></maxRuleNum>
 <RuleEntry>
   <eventType opt="traversePlane, enterArea, exitArea, intrusion, loiter, leftAndTake, parking, run, highDensity,
violentMotion, reachHeight, getup, left, take, leavePosition, trail, keyPersonGetup, fallDown, audioAbnormal,
advReachHeight, toiletTarry, yardTarry, advTraversePlane, humanEnter, overTime, stickup, installScanner, standup,
peopleNumChange, spacingChange, lecture, answer, combinedRule, sitQuietly, writing, fakeCard"/>
   <!--event type: "traversePlane"-plane crossing, "enterArea"-region entrance, "exitArea"-region exiting,
"intrusion", "loiter"-loitering, "leftAndTake"-object left and removal, "parking", "run"-running, "highDensity"-occupant
density in the region, "violentMotion"-violent motion, "reachHeight"-climbing, "getup"-getting up, "left"-unattended
baggage, "take"-object removal, "leavePosition"-absence, "trail"-tailgating, "keyPersonGetup"-key person getting up,
"fallDown"-people falling down, "audioAbnormal"-sudden change of sound intensity, "advReachHeight"-polyline
climbing, "toiletTarry"-in-toilet overtime, "yardTarry"-playground overstay, "advTraversePlane"-plane polyline crossing,
"humanEnter"-people approaching ATM, "overtime"-operation timeout, "stickup"-sticking, "installScanner"-installing
card reader, "standup"-standing up, "peopleNumChange"-number of people change, "spacingChange"-space distance
change, "lecture"-teaching, "answer"-answering questions, "combinedRule"-combined rule, "sitQuietly"-sitting
quietly, "writing"-writing on the blackboard, "fakeCard"-fake card detection-->
   <ruleNameLength min="0" max="32"/><!--rule name length-->
   <SizeFilter>
    <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
    <!--filter mode: "imagePixel"-by pixel size,"realWorld"-by actual size, "default"-->
    <minRect><!--minimum target frame--></minRect>
    <maxRect><!--maximum target frame--></maxRect>
   </SizeFilter>
   <AlarmTime>
    <timeSegNum min="2" max="8"/><!--number of arming period per day-->
   </AlarmTime>
   <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
   <!--"monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance center, "alarmout"-
trigger alarm output, "picture"-capture JPEG picture and send by email, "wirelesslight"-wireless light and audio alarm,
"uploadftp"-capture picture and upload to FTP-->
   <relRecordChan><!--alarm triggered channel recording--></relRecordChan>
   <alarmDelay opt="5,10,30,60,120,300,600"/><!--alarm delay-->
   <FilterStrategy>
    <strategy opt="disabled,widthAndHeight,targetArea" default="disabled"/>
    <!--filter strategy: "disabled"-disable, "widthAndHeight"-height and width filter, "targetArea"-target area filter-->
   </FilterStrategy>
   <TriggerParam>
    <tiggerMode opt="disabled,trackPoint,targetArea" default="disabled"/>
    <!--triggering mode: "disabled"-disable, "trackPoint"-track point, "targetArea"-target area-->
    <triggerPoint opt="center,up,down" default="center"/>
    <!--triggered point: "center", "up", "down"-->
    <triggerArea min="0" max="100" default="50"/>
    <!--triggered target area percentage-->
   </TriggerParam>
```

```
        <intervalTime min="" max="" default=""/>
        <!--interval between two alarms (unit: second), ranges from 1 to 7200, the default value is 600-->
        <heightLimit min="" max=""/>
        <!--minimum height of the detected target (unit: cm), ranges from 0 to 250, the default value is 80, target lower
than the minimum height will not be detected-->
        <fallDownMaxRuleNum><!--maximum number of rules for people falling down detection, if this node is not
returned, the maximum number depends on maxRuleNum--></ fallDownMaxRuleNum>
        <violentMotionMaxRuleNum><!--maximum number of rules for violent motion, if this node is not returned, the
maximum number depends on maxRuleNum--></ violentMotionMaxRuleNum>
      </RuleEntry>
    </RuleEntryList>
  </BehaviorRule>
  <MaskRegion><!--shielded region-->
   <maxRegionNum><!--number of regions--></maxRegionNum>
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
  </MaskRegion>
  <EnterRegion><!--region entrance-->
   <maxRegionNum><!--number of regions--></maxRegionNum>
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
  </EnterRegion>
  <Calibration><!--calibration-->
   <BehaviorIn><!--behavior calibration in indoor scene-->
    <enabled opt="true,false"/><!--whether to enable-->
    <calSampleNum min="2" max="5"/><!--number of calibration samples-->
    <CalSample><!--calibration sample-->
     <targetRect><!--target frame--></targetRect>
     <LineSegment>
      <lineMode opt="heightLine,lengthLine"/>
      <!--"heightLine"-height sample line, "lengthLine"-length sample line-->
      <value min="1" max="1000"/><!--height or length-->
     </LineSegment>
    </CalSample>
    <CameraParam>
     <cameraHeight min="2" max="50"/><!--camera height-->
     <cameraPitchAngle min="1" max="89"/><!--camera tilt angle-->
     <horizonLine min="0.0" max="1.0"/><!--horizon line in the scene-->
    </CameraParam>
   </BehaviorIn>
   <BehaviorOut><!--behavior calibration in outdoor scene-->
    <enabled opt="true,false"/><!--whether to enable-->
    <lineSegNum min="4" max="8"/><!--number of sample lines-->
    <LineSegment>
     <lineMode opt="heightLine,lengthLine"/>
     <!--"heightLine"-height sample line, "lengthLine"-length sample line-->
     <value min="1" max="1000"/><!--height or length-->
    </LineSegment>
    <CameraParam>
     <cameraHeight min="2" max="50"/><!--camera height-->
```

```
      <cameraPitchAngle min="1" max="89"/><!--camera tilt angle-->
      <horizonLine min="0.0" max="1.0"/><!--horizon line in the scene-->
    </CameraParam>
  </BehaviorOut>
  <calibVerify><!--whether to support calibration verification--></calibVerify>
 </Calibration>
 <Scene>
  <maxSceneNum><!--maximum number of scenes--></maxSceneNum>
  <uploadSceneID><!--whether uploads event/alarm scene ID: "true"--></uploadSceneID>
 </Scene>
</Behavior>
<Traffic><!--traffic-->
 <Scene><!--scene parameter-->
  <maxSceneNum><!--maximum number of scenes--></maxSceneNum>
  <maxSceneTimeSegNum><!--maximum number of time period in traffic scene--></maxSceneTimeSegNum>
  <SceneParam>
   <direction><!--detection direction--></direction>
   <sceneID><!--scene ID--></sceneID>
   <sceneNameLength min="0" max="32"/><!--scene name length-->
   <ptzPos><!--PTZ coordinate--></ptzPos>
   <trackTime min="5" max="300"/><!--speed dome tracking time-->
  </SceneParam>
 </Scene>
 <MaskRegion><!--shielded region-->
  <maxRegionNum><!--number of regions--></maxRegionNum>
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
 </MaskRegion>
 <ReferenceRegion><!--reference region-->
  <maxRegionNum><!--number of regions--></maxRegionNum>
  <Region>
   <vertexNum min="3" max="10"/><!--number of region vertexes-->
  </Region>
 </ReferenceRegion>
 <Calibration><!--calibration-->
  <enabled opt="true,false"/><!--whether to enable-->
  <calibPointNum min="4" max="4"/><!--number of calibration points-->
  <width><!--width--></width>
  <height><!--height--></height>
  <calibVerify><!--whether to support calibration verification--></calibVerify>
 </Calibration>
 <LaneCfg><!--lane configuration-->
  <maxLaneNum><!--maximum number of lanes--></maxLaneNum>
  <LaneParam>
   <laneNameLength min="0" max="32"/><!--lane name length-->
   <flowDirection><!--traffic flow direction in the lane--></flowDirection>
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
  </LaneParam>
 </LaneCfg>
```

```
<AidRule><!--traffic event rules-->
 <picProcType opt="notProcess,upload"/>
 <!--picture processing method: "notProcess"-not process, "upload"-upload-->
 <JpegParam>
  <picSize><!--picture size--></picSize>
  <picQuality opt="best,better,normal"/>
  <!--picture quality: "best", "better", "normal"-->
 </JpegParam>
 <RuleEntryList>
  <maxRuleNum><!--maximum number of rules--></maxRuleNum>
  <RuleEntry>
   <ruleNameLength min="0" max="32"/><!--rule name length-->
   <eventType
opt="congestion,parking,inverse,pedestrian,debris,smoke,overLine,vehicleControlList,speed,illegalLaneChange,turnAro
und"/>
   <!--event type: "congestion", "parking", "inverse"-driving in the opposite direction, "pedestrian", "debris"-
thrown object, "smoke", "overLine"-driving over the line, "vehicleControlList"-blocklist, "speed"-speeding,
"illegalLaneChange"-illegal lane change, "turnAround"-turning around-->
   <SizeFilter>
    <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
    <!--filter mode, "imagePixel"-by pixel size, "realWorld"-by actual size, "default"-->
    <minRect><!--minimum target frame--></minRect>
    <maxRect><!--maximum target frame--></maxRect>
   </SizeFilter>
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <AidParam>
    <parkingDuration min="10" max="120" default="100"/>
    <!--parking duration-->
    <pedestrianDuration min="1" max="120" default="100"/>
    <!--pedestrian duration-->
    <debrisDuration min="10" max="120" default="100"/>
    <!--thrown object duration-->
    <congestionLength min="5" max="200" default="100"/>
    <!--congestion length threshold-->
    <congestionDuration min="10" max="120" default="60"/>
    <!--congestion duration-->
    <inverseDuration min="1" max="10" default="5"/>
    <!--duration of driving in the opposite direction-->
    <inverseDistance min="2" max="100" default="50"/>
    <!--distance threshold of driving in the opposite direction-->
    <inverseAngleTolerence min="90" max="180" default="100"/>
    <!--allowed angle deviation-->
    <illegalParkingTime min="4" max="60" default="10"/>
    <!--illegal parking time-->
    <illegalParkingPicNum min="1" max="6" default="4"/>
    <!--number of illegal parking pictures-->
    <mergePic><!--whether to support joint picture--></mergePic>
   </AidParam>
   <AlarmTime>
    <timeSegNum min="2" max="8"/>
```

```
        <!--number of arming period per day-->
      </AlarmTime>
      <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
      <!--"monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance center, "alarmout"-
trigger alarm output, "picture"-capture JPEG picture and send by email, "wirelesslight"-wireless light and audio alarm,
"uploadftp"-capture picture and upload to FTP-->
      <relRecordChan><!--alarm triggered channel recording--></relRecordChan>
      <laneNo min="1" max="99"/><!--lane No.-->
    </RuleEntry>
   </RuleEntryList>
  </AidRule>
  <TpsRule><!--traffic data statistics rule-->
   <RuleEntryList>
    <maxRuleNum><!--maximum number of rules--></maxRuleNum>
    <RuleEntry>
     <laneID><!--lane ID--></laneID>
     <calcType
opt="laneVolume,laneVelocity,timeHeadway,spaceHeadway,timeOccupancyRatio,spaceOccupancyRatio,queue,vehicle
Type,trafficState"/>
      <!--statistics parameter type: "laneVolume"-lane traffic, "laneVelocity"-lane speed, "timeHeadway"-time
headway, "spaceHeadway"-space headway, "timeOccupancyRatio"-lane occupancy percentage (time),
"spaceOccupancyRatio"-lane occupancy percentage (space), "queue"-queue length, "vehicleType"-vehicle type,
"trafficState"-traffic status-->
     <SizeFilter>
      <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
      <!--filter mode, "imagePixel"-by pixel size, "realWorld"-by actual size, "default"-->
      <minRect><!--minimum target frame--></minRect>
      <maxRect><!--maximum target frame--></maxRect>
     </SizeFilter>
     <Region>
      <vertexNum min="3" max="10"/><!--number of region vertexes-->
     </Region>
     <AlarmTime>
      <timeSegNum min="2" max="8"/>
      <!--number of arming period per day-->
     </AlarmTime>
     <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
      <!--"monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance center, "alarmout"-
trigger alarm output, "picture"-capture JPEG picture and send by email, "wirelesslight"-wireless light and audio alarm,
"uploadftp"-capture picture and upload to FTP-->
    </RuleEntry>
   </RuleEntryList>
  </TpsRule>
  <forensicsMode opt="manual,auto"/>
  <!--evidence capture mode: "manual", "auto"-automatic-->
  <trafficSceneMode opt="freeway,tunnel,bridge"/>
  <!--traffic scene mode: "freeway"-outdoor scene in the freeway, "tunnel"-tunnel scene in the freeway, "bridge"-
bridge scene in the freeway-->
  <ITCTriggerCfg><!--video triggering parameter-->
   <triggerMode opt="VIAVirtualCoil"/>
   <!--triggering mode: "VIAVirtualCoil"-VIA (Vehicle characteristics Intelligent Analysis) virtual coil triggering-->
   <VIAVirtualCoilParam><!--VIA virtual coil triggering parameter-->
```

```
    <laneNum><!--number of lanes--></laneNum>
    <laneBoundaryLine><!--lane boundary line, which is the left boundary line of the leftmost lane--></
laneBoundaryLine>
    <VIALane>
     <maxLaneNum><!--maximum number of lanes--></maxLaneNum>
     <associatedLaneNO><!--lane No. linkage--></associatedLaneNO>
     <LaneLogicParam>
      <laneUseage opt="unknown,carriageWay,bus,fast,slow,motor,nonMotor,reverse,banTrucks,mix"/>
      <!--lane type: "unknown", "carriageWay"-normal lane, "bus"-bus lane, "fast"-express lane, "slow"-slow lane,
"motor"-motorcycle lane, "nonMotor"-non-motor vehicle lane, "reverse"-opposite lane, "banTruck"-non-truck lane,
"mix"-all-purpose lane-->
      <laneDirection
opt="unknown,left,straight,leftStraight,right,leftRight,rightStraight,leftRightStraight,leftWait,straightWait,forward,back
ward,bothway"/>
      <!--lane direction: "unknown", "left"-turning left, "straight"-going straight, "leftStraight"-turning left and going
straight, "right"-turning right, "leftRight"-turning left and turning right, "rightStraight"-turning right and going straight,
"leftRightStraight"-turning left, turning right and going straight, "leftWait"-waiting to turn left, "straight"-waiting to go
straight, "forward"-driving forward, "backward"-driving backward, "bothway"-bidirectional driving-->
      <carDriveDirection opt="unknown,uptodown,downtoup"/>
      <!--driving direction: "unknown", "uptodown"-driving in the down direction, "downtoup"-driving in the up
direction-->
     </LaneLogicParam>
     <laneLine><!--lane line--></laneLine>
     <Region>
      <vertexNum min="3" max="20"/>
      <!--plate recognition area, number of region vertexes-->
     </Region>
    </VIALane>
    <PlateRecogParam>
     <provinceAbbreviation><!--Chinese character abbreviation of the province where the device operates--></
provinceAbbreviation>
     <RecogMode><!--recognition mode-->
     <plateRecogPos opt="fromFront,fromBack"/>
     <!--plate recognition position, "fromFront"-front plate recognition, "fromBack"-rear plate recognition-->
     <plateRecogType opt="big,little"/>
     <!--plate recognition type, "big"-large license plate, "little"-small license plate-->
     <locationType opt="sceneLocation,frameLocation"/>
     <!--location type, "sceneLocation"-scene location, "frameLocation"-frame location-->
     <recogType opt="sceneRecognition,frameRecognition"/>
     <!--recognition type, "sceneRecognition"-scene recognition, "frameRecognition"-frame recognition-->
     <recogTime opt="daytime,night"/>
     <!--recognition time, "daytime", "night"-->
     <sceneType opt="EPolice,gate"/>
     <!--scene type, "EPolice"-e-police, "gate"-checkpoint-->
     <microPlateRecog opt="true,false"/>
     <!--smaller license plate recognition-->
     <farmVehicleRecog opt="true,false"/>
     <!--farm vehicle recognition-->
     <vechileColorRecog opt="true,false"/>
     <!--vehicle color recognition-->
     <motorCarRecog opt="true,false"/>
     <!--motorcycle recognition-->
```

```
       <blurRecog opt="true,false"/>
       <!--fuzzy recognition-->
     </RecogMode>
     <vehicleLogoRecog opt="true,false"/><!--vehicle logo recognition-->
    </PlateRecogParam>
   </VIAVirtualCoilParam>
  </ITCTriggerCfg>
 </Traffic>
 <PDC><!--people counting statistics-->
  <PDCType opt="smart, professionalIntelligence"/>
  <!--intelligent people counting type: "smart"-smart device, "professionalIntelligence"-professional intelligent iDS
device-->
  <PDCRule>
   <Region>
    <vertexNum min="4" max="10"/><!--number of region vertexes-->
   </Region>
   <Line>
    <support opt="leftLine,rightLine"/>
   </Line>
   <enterDirection><!--people counting entrance direction--></enterDirection>
   <dayStartTime><!--daytime start time--></dayStartTime>
   <nightStartTime><!--night start time--></nightStartTime>
   <AlarmTime>
    <timeSegNum min="2" max="8"/><!--number of arming period per day-->
   </AlarmTime>
   <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
   <!--req, handling type-->
   <detecteSensitive min="" max=""/>
   <!--target detection sensitivity, ranges from 1 to 100, the default value is 50-->
   <generatieSpeedSpace min="" max=""/>
   <!--target generating speed (space), ranges from 1 to 100, the default value is 50-->
   <generatieSpeedTime min="" max=""/>
   <!--target generating speed (time), ranges from 1 to 100, the default value is 50-->
   <countSpeed min="" max=""/>
   <!--counting speed, ranges from 1 to 100, the default value is 50-->
   <detecteType opt="auto,head,shoulder"/>
   <!--target detection type: "auto"-automatic detection, "head"-head detection, "shoulder"-head and shoulder
detection, the default value is "auto"-->
   <targetSizeCorrect min="" max=""/>
   <!--target size correction, ranges from 1 to 100, the default value is 50-->
  </PDCRule>
  <Calibration>
   <calibRectNum min="1" max="6"/>
   <!--number of calibration frames-->
   <calibLine><!--whether to support calibration line--></calibLine>
   <calibVerify><!--whether to support calibration verification--></calibVerify>
  </Calibration>
  <resetCounter><!--reset counting parameter--></resetCounter>
  <resetCounterMode opt="timing,manual"/><!--reset counting mode-->
  <OSD>
   <enable opt="disable,enable"/><!--req, enable people counting OSD display-->
   <topLeftPoint><!--req, whether to support the top left coordinate--></topLeftPoint>
```

```
    <OSDType opt="enter,leave,enterLeave,none,peoplePassing, enterPeoplePassing">
    <!--opt, xs:string, display type: "enter"-number of people entered, "leave"-number of people left, "enterLeave"-
number of people entered and left, "none", "peoplePassing"-number of people passed, "enterPeoplePassing"-number
of people entered and passed-->
    </OSDType>
  </OSD>
  <mutexAbility
opt="fieldDetection,traversingVirtualPlane,regionEntrance,regionExiting,loitering,group,rapidMove,parking,unattende
dBaggage,attendedBaggage"/><!--req, mutex ability-->
  <brokenNetHttp><!--opt, whether to support ANR--></brokenNetHttp>
  <SecUploadEnable opt="true,false"/>
  <!--opt, xs:boolean, enable to upload every second-->
  <DataUploadCycle opt="1,5,10,15,20,30,60"/>
  <!--opt, xs:inter, period of uploading people counting detection statistics (unit: minute)-->
  <isSupportRecommendedValue>
    <!--opt, xs:boolean, return true if supported, otherwise this node will not be returned-->
  </isSupportRecommendedValue>
  <isSupportFlashRemoveCouting>
    <!--opt, xs:boolean, clear people counting statistics in Flash, return true if supported, otherwise this node will not
be returned-->
  </isSupportFlashRemoveCouting>
  <InterferenceSuppression><!--opt, interference suppression-->
   <shadow opt="true,false">
    <!--opt, xs:boolean, shadow-->
   </shadow>
   <loitering opt="true,false">
    <!--opt, xs:boolean, loitering-->
   </loitering>
   <cart opt="true,false">
    <!--opt, xs:boolean, pushing the vehicle-->
   </cart>
  </InterferenceSuppression>
  <EmailReport><!--opt, report by email-->
   <DayReport opt="true,false">
    <!--opt, xs:boolean, daily people counting report-->
   </DayReport>
   <WeekReport opt="true,false">
    <!--opt, xs:boolean, weekly people counting report-->
   </WeekReport>
   <MonthReport opt="true,false">
    <!--opt, xs:boolean, monthly people counting report-->
   </MonthReport>
   <YearReport opt="true,false">
    <!--opt, xs:boolean, annual people counting report-->
   </YearReport>
  </EmailReport>
  <CountingCalibrate><!--opt, installation calibration verification-->
   <calibrateType opt="automatic,manual,no">
    <!--opt, xs:string, "automatic"-automatic calibration, "manual"-manual calibration, "no"-no calibration-->
   </calibrateType>
   <SetupParam><!--req, installation parameters-->
    <height min="" max="">
```

```
    <!--opt, xs:float, height, unit: cm-->
   </height>
   <tiltAngle min="" max="">
    <!--opt, ro, xs:float, tilt angle-->
   </tiltAngle>
   <heelAngle min="" max="">
    <!--opt, ro, xs:float, heel angle-->
   </heelAngle>
  </SetupParam>
  <CountingArea><!--req, ro, counting area (red frame)-->
   <RegionCoordinatesList size="">
    <RegionCoordinates><!--req, region coordinate points-->
     <positionX>
      <!--req, xs:integer, X-coordinate-->
     </positionX>
     <positionY>
      <!--req, xs:integer, Y-coordinate-->
     </positionY>
    </RegionCoordinates>
   </RegionCoordinatesList>
  </CountingArea>
  <AutomaticCalib><!--opt, it is valid when calibrateType is "Automatic"-->
   <CalibRegion><!--opt, calibration region (green frame)-->
    <RegionCoordinatesList size="">
     <RegionCoordinates><!--req, region coordinate points-->
      <positionX>
       <!--req, xs:integer, X-coordinate-->
      </positionX>
      <positionY>
       <!--req, xs:integer, Y-coordinate-->
      </positionY>
     </RegionCoordinates>
    </RegionCoordinatesList>
   </CalibRegion>
  </AutomaticCalib>
 </CountingCalibrate>
 <HeightFilterOverlay><!--opt-->
  <enable opt="true,false" default="">
   <!--opt, xs:boolean-->
  </enable>
  <heightFilter min="" max="" default="">
   <!--opt, xs:integer-->
  </heightFilter>
 </HeightFilterOverlay>
 <isSupportPosInfoOverlay opt="true,false">
  <!--opt, xs:boolean-->
 </isSupportPosInfoOverlay>
 <isSupportCalibrate opt="true,false">
  <!--opt, xs:boolean, whether to support calibration-->
 </isSupportCalibrate>
 <isSupportSearchPeoplePassing opt="true,false">
  <!--opt, xs:boolean, whether to support searching people passed-->
```

```
    </isSupportSearchPeoplePassing>
    <countingType opt="none,alarmInputTrigger,videoTrigger" />
    <!--opt, xs:string, triggering counting mode: "none", "alarmInputTrigger"-alarm input triggering, "videoTrigger"-VCA
triggering-->
    <alarmInputTrigger_signalType opt="level,pulses" />
    <!--opt, xs:string, signal type: "level"-level, "pulses"-pulse-->
    <videoTrigger_RS485Transmission opt="true,false" />
    <!--opt, xs:boolean, enable RS-485 data transmission-->
    <isSupportTriggerPeopleCountingDataSearch><!--opt, whether to support triggering searching people counting
statistics--></isSupportTriggerPeopleCountingDataSearch>
    <isSupportDailyResetTime><!--opt, whether to support scheduled resetting--></isSupportDailyResetTime>
    <Polyline><!--opt, whether to support polyline detection-->
     <maxPointNumber>
        <!--req, xs:integer, supported number of polyline endpoints-->
     </maxPointNumber>
    </Polyline>
    <isSupportBusDetectionArea><!--opt, whether to support mobile bus entry/exit detection area--></
isSupportBusDetectionArea>
    <isSupportStreamOverlayRuleInfos><!--opt, whether to support stream VCA information overlay--></
isSupportStreamOverlayRuleInfos>
    <isSupportInterfaceSegmentation><!--opt, whether to support window division by 4200 software--></
isSupportInterfaceSegmentation>
    <isSupportMobileDescribeChange><!--opt, this node is used to mark the edited the parameter name of people
counting camera interface, which can distinguish the baseline product and mobile product--></
isSupportMobileDescribeChange>
    <isSupportAdvanceConfiguration><!--opt, this node is used to mark whether the camera supports advanced
configuration--></isSupportAdvanceConfiguration>
    <isSupportSearchDoorStates><!--opt, this node is used to support detecting the door status triggered by mobile
signal--></isSupportSearchDoorStates>
    <isSupportMultiChannelSearch><!--opt, whether supports people counting of multiple channels--></
isSupportMultiChannelSearch>
  </PDC>
  <HeatMapDetection><!--req, heat map detection-->
   <enable opt="true,false"/><!--req, "false"-disable, "true"-enable-->
   <detSenceID min="" max=""/><!--req, detection scene ID-->
   <heatMapRegionNum><!--req, number of heat map detection regions--></heatMapRegionNum>
   <HeatMapParam><!--req, corresponding number of this node-->
    <regionNum min="3" max="10"/>
    <!--req, number of valid points supported by each heat map detection region-->
    <targetTrackEnable opt="true,false"/>
    <!--req, target track: "true"-open, "false"-close, the default value is "false"-->
    <sensitivityLevel min="0" max="100"/>
    <!--req, sensitivity-->
    <backgroundUpdateRate min="1" max="100"/>
    <!--req, background updating rate, ranges from 1 to 100, the default value is 50-->
    <sceneChangeLevel min="1" max="100"/>
    <!--req, scene change level, ranges from 1 to 100, the default value is 50-->
    <minTargetSize min="1" max="100"/>
    <!--req, minimum target size, ranges from 1 to 100, the default value is 50-->
   </HeatMapParam>
   <alarmTime><!--req, number of arming period--></alarmTime>
   <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
```

```
  <!--req, handling type: "monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance
center, "alarmout"-trigger alarm output, "picture"-capture JPEG picture and send by email (Uploadftp was missing in
earlier versions and was added later. If this string cannot be resolved, firstly check whether to support capturing
pictures and uploading to FTP, and then resolve the uploadftp node of the software and hardware capability of the
device.), "wirelesslight"-wireless light and audio alarm, "uploadftp"-capture picture and upload to FTP-->
  <brokenNetHttp><!--opt, whether to support ANR--></brokenNetHttp>
  <uploadHeatMapResultType opt="0,1"/><!--opt, heat map type, 0-standard heat map, 1-heat map of people
counting and dwell duration-->
  <confidence min="0.00" max="100.00"/><!--opt, whether supports setting target picture confidence-->
  <searchType opt="duration,PDC"/><!--opt, statistics types, dwell duration statistics or people counting statistics--->
 </HeatMapDetection>
 <Face><!--facial detection-->
  <FaceDetect>
   <eventType opt="abnormalFace,normalFace,multiFace,sunglassesFace,callFace"/>
   <!--"abnormalFace"-abnormal face, "normalFace"-normal face, "multiFace"-multiple faces, "sunglassesFace"-face
with sunglasses, "callFace"-face on the phone-->
   <uploadLastAlarm opt="false,true"/><!--upload the latest alarm-->
   <uploadFacePic opt="false,true"/><!--upload face sub-picture-->
   <picRecordEnable opt="false,true"/><!--picture storage-->
   <ruleNameLength min="0" max="32"/><!--rule name length-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
   <picProcType opt="notProcess,upload"/>
   <!--picture processing method: "notProcess"-not process, "upload"-upload-->
   <sensitivity min="1" max="100" default="10"/><!--sensitivity-->
   <duration min="4" max="60" default="30"/><!--triggered time threshold of face alarm-->
   <JpegParam>
    <picSize><!--picture size--></picSize>
    <picQuality opt="best,better,normal"/>
    <!--picture quality: "best", "better", "normal"-->
   </JpegParam>
   <SizeFilter>
    <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
    <!--filter mode, "imagePixel"-by pixel size, "realWorld"-by actual size, "default"-->
    <minRect><!--minimum target frame--></minRect>
    <maxRect><!--maximum target frame--></maxRect>
   </SizeFilter>
   <AlarmTime>
    <timeSegNum min="2" max="8"/><!--number of arming period per day-->
   </AlarmTime>
   <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
   <!--"monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance center, "alarmout"-
trigger alarm output, "picture"-capture JPEG picture and send by email, "wirelesslight"-wireless light and audio alarm,
"uploadftp"-capture picture and upload to FTP-->
   <relRecordChan><!--alarm triggered channel recording--></relRecordChan>
   <alarmDelay opt="5,10,30,60,120,300,600"/><!--alarm delay-->
   <FaceInPicture><!--face picture-in-picture-->
    <enabled opt="true,false"/><!--whether to enable-->
    <backChannel><!--background channel--></backChannel>
    <position opt="topLeft,topRight,bottomLeft,bottomRight" default="bottomRight"/>
    <!--overlay position: "topLeft"-top left, "topRight"-top right, "bottomLeft"-bottom left, "bottomRight"-bottom
```

```
right-->
    <division opt="1/4,1/9,1/16"/><!--window division ratio-->
    <IPChannel>
     <isSupport><!--whether to support IP channel, newly added to DeepinMind ATM, old devices only support face
PIP of analog channel--></isSupport>
     <isSupportBackChannel><!--whether to support setting IP channel as the background channel, newly added to
DeepinMind ATM, old devices only support setting analog channel as the background channel--></
isSupportBackChannel>
    </IPChannel>
   </FaceInPicture>
   <maxRelSnapChanNum><!--maximum number of capture linkage channels--></maxRelSnapChanNum>
   <isSupportEventTypeEx><!--whether the device supports EventTypeEx extension field. It is used to determine the
compatibility of iVMS-4200--></isSupportEventTypeEx>
   <AlgParam>
    <!--opt, configuration display capability of face detection algorithm library, only used in ATM project. The
configuration items not contained in the capability will display by default without being determined by the capability--
>
    <FaceDetectAlg><!--opt, face detection algorithm capability-->
     <FaceDetectList size=""><!--opt, face detection algorithm capability list-->
      <FaceDetect><!--opt-->
       <eventType opt="abnormalFace,normalFace,multiFace,sunglassesFace,callFace"/>
       <!--"abnormalFace"-abnormal face, "normalFace"-normal face, "multiFace"-multiple faces, "sunglassesFace"-
face with sunglasses, "callFace"-face on the phone-->
       <sensitivity min="1" max="5" default="3"/><!--sensitivity-->
       <duration min="30" max="1800" default="60"/>
       <!--triggered time threshold of face alarm, unit: second-->
      </FaceDetect>
     </FaceDetectList>
    </FaceDetectAlg>
   </AlgParam>
   <NotDisplayDefaultDetectRegion><!--The rule configuration will not display the default detection range. It is
mainly used to determine the compatibility of iVMS-4200--></NotDisplayDefaultDetectRegion>
  </FaceDetect>
  <FaceSnap><!--face capture-->
  <snapTime min="0" max="10" default="5"/><!--capture times-->
  <snapInterval min="0" max="255" default="24"/><!--capture interval, unit: frame-->
  <snapThreshold min="0" max="100" default="80"/><!--capture threshold-->
  <generateRate min="1" max="5" default="3"/><!--target generating rate-->
  <sensitivity min="1" max="5" default="5"/><!--sensitivity-->
  <referenceBright min="0" max="100" default="80"/><!--reference brightness-->
  <matchType opt="alarmRealtime,alarmAfterDisappear" default="alarmRealtime"/>
  <!--comparison alarm mode: "alarmRealtime"-real-time alarm, "alarmAfterDisappear"-alarm after the target
disappears-->
  <matchThreshold min="0" max="100" default="80"/>
  <!--real-time comparison threshold-->
  <JpegParam>
   <picSize><!--picture size--></picSize>
   <picQuality opt="best,better,normal"/><!--picture, "best", "better", "normal"-->
  </JpegParam>
  <RuleEntryList>
   <maxRuleNum><!--maximum number of rules--></maxRuleNum>
   <RuleEntry>
```

```
   <SizeFilter>
    <mode opt="imagePixel,realWorld,default" default="imagePixel"/>
    <!--filter mode, "imagePixel"-by pixel size, "realWorld"-by actual size, "default"-->
    <minRect><!--minimum target frame--></minRect>
    <maxRect><!--maximum target frame--></maxRect>
    <PupillaryDistance><!--pupil distance limit-->
     <width min="" max=""/><!--width limit-->
    </PupillaryDistance>
   </SizeFilter>
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
  </RuleEntry>
  <autoROI opt="false,true"/>
  <!--whether to enable automatic face ROI switch: "false"-no, "true"-yes-->
 </RuleEntryList>
 <faceExposure opt="false,true"/>
 <!--whether to enable face exposure: "false"-no, "true"-yes-->
 <faceExposureMinDuration min="" max=""/><!--minimum face exposure duration-->
 <backgroundPic opt="open,close"/>
 <!--req, whether to enable uploading background picture: "open"(default), "close"-->
 <faceFilteringTime min="" max="" default="">
  <!--opt, face dwell time filter, ranges from 0 to 100, the default value is 5-->
 </faceFilteringTime>
 <isSupportMultiScene opt="true,false">
  <!--opt, xs:boolean, whether to support face multi-scene configuration-->
 </isSupportMultiScene>
 <FaceContrast>
  <!--opt, face comparison-->
  <enabled opt="false,true"/>
 </FaceContrast>
 <brokenNetHttp><!--opt, whether to support ANR--></brokenNetHttp>
</FaceSnap>
<SnapDevAccess><!--capture access parameters-->
 <devIP opt="ipv4,ipv6"/><!--IP address-->
 <devPort min="8000" max="65535"/><!--port-->
 <usernameLength min="0" max="32"/><!--username length-->
 <passwordLength min="0" max="16"/><!--password length-->
</SnapDevAccess>
<SavePathCfg><!--storage path parameters-->
 <partitionNum><!--number of partitions--></partitionNum>
 <SinglePath>
  <type opt="snapFace,blacklistAlarm,snapFaceAndBlacklistAlarm" default="snapFaceAndBlacklistAlarm"/>
  <!--storage type: "snapFace"-capture face, "blacklistAlarm"-blocklist alarm, "snapFaceAndBlacklistAlarm"-capture
face and blocklist alarm-->
  <saveAlarmPic><!--whether to support saving offline alarm picture--></saveAlarmPic>
  <diskDriver min="0" max="32"/><!--disk driver symbol-->
  <reservedSpace min="10" max="20" default="10"/><!--reserved space, unit: G-->
 </SinglePath>
</SavePathCfg>
<MaskRegion><!--shielded region-->
 <maxRegionNum><!--number of regions--></maxRegionNum>
```

```
    <Region>
     <vertexNum min="3" max="10"/><!--number of region vertexes-->
    </Region>
   </MaskRegion>
  </Face>
  <VQD><!--video quality diagnostics-->
   <VQDEventType
opt="blur,luma,chroma,snow,streak,freeze,signalLoss,ptzControl,sceneChange,videoAbnormal,videoBlock"/>
   <!--"blur"-blurred image, "luma"-brightness exception, "chroma"-color cast, "snow"-snow noise, "streak"-stripe
noise, "freeze"-frame freezing, "signalLoss"-signal loss, "ptzControl"-uncontrollable PTZ, "sceneChange"-sudden scene
change, "videoAbnormal"-video exception, "videoBlock"-video tampering-->
   <VQDRule>
    <EventParam>
     <threshold min="0" max="100"/><!--alarm threshold-->
     <triggerMode opt="continuous,single"/>
     <!--alarm triggering mode: "continuous"-continuous triggering, "single"-single triggering-->
     <uploadPic opt="false,true"/><!--upload alarm picture-->
     <timeInterval min="0" max="3600" default="120"/>
     <!--time interval of continuous alarm triggering, unit: second-->
    </EventParam>
    <AlarmTime>
     <timeSegNum min="2" max="8"/><!--number of arming period per day-->
    </AlarmTime>
    <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
    <!--"monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance center, "alarmout"-
trigger alarm output, "picture"-capture JPEG picture and send by email, "wirelesslight"-wireless light and audio alarm,
"uploadftp"-capture picture and upload to FTP-->
    <relRecordChan><!--alarm triggered channel recording--></relRecordChan>
   </VQDRule>
   <downloadAlarmPic><!--download VQD alarm picture--></downloadAlarmPic>
  </VQD>
  <ObjectColor><!--object color-->
   <objectType opt="coat"/><!--object type,"coat"-->
   <colorMode opt="value,picture" default="value"/>
   <!--coloring mode: "value"-color value, "picture"-->
   <colorValue>
    <brightness min="0" max="255"/><!--brightness-->
    <saturation min="0" max="255"/><!--saturation-->
    <hue min="0" max="255"/><!--hue-->
   </colorValue>
   <colorPicture>
    <picType opt="jpg"/><!--picture type-->
    <picWidth min="100" max="400"/><!--picture width-->
    <picHeight min="100" max="300"/><!--picture height-->
   </colorPicture>
  </ObjectColor>
  <AuxArea><!--auxiliary region-->
   <maxAreaNum><!--number of regions--></maxAreaNum>
   <areaType opt="overlapRegion,bedLocation"/>
   <!--region type, "overlapRegion"-common region, "bedLocation"-bed location-->
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
```

```
    </Region>
  </AuxArea>
  <BaselineScene><!--baseline scene-->
    <operation opt="update"/><!--operation, "update"-->
    <downloadBaselineScenePic><!--download baseline scene picture--></downloadBaselineScenePic>
  </BaselineScene>
  <channelWorkMode opt="independent,master,slave"/>
  <!--channel working mode: "independent"-independent mode, "master"-master mode, "slave"-slave mode-->
  <SlaveChannel><!--slave channel-->
    <maxChanNum><!--maximum number of slave channels--></maxChanNum>
    <chanType opt="local,remote"/>
    <!--slave channel type: "local"-local device channel, "remote"-remote device channel-->
    <RemoteChannel><!--remote channel-->
      <devAddress opt="ipv4,ipv6,domainName"/>
      <!--address type: "ipv4"-IPv4, "ipv6"-IPv6, "domainName"-device domain name-->
      <devPort min="8000" max="65535"/><!--port-->
      <userNameLength min="0" max="32"/><!--username length-->
      <passwordLength min="0" max="16"/> <!--password length-->
      <channelNumber><!--channel No.--></channelNumber>
    </RemoteChannel>
  </SlaveChannel>
  <VcaKeyParam>
  <!--VCA algorithm library keyword parameter, the default type is integer currently, other types such as float and
string need extra APIs-->
  <!--translation suffix explanation: "cn"-Chinese, "en"-English-->
    <VcaKeyParamEntry>
      <index><!--keyword index value--></index>
      <PlainText>
        <translationCn><!--Chinese name--></translationCn>
        <translationEn><!--English name--></translationEn>
      </PlainText>
      <value min="1" max="100" default="50"/><!--value range-->
    </VcaKeyParamEntry>
    <VcaKeyParamEntry>
      <index><!--keyword index value--></index>
      <PlainText>
        <translationCn><!--Chinese name--></translationCn>
        <translationEn><!--English name--></translationEn>
      </PlainText>
      <value min="1" max="100" default="50"/>
    </VcaKeyParamEntry>
    <VcaKeyParamEntry>
      <index><!--keyword index value--></index>
      <PlainText>
        <translationCn><!--Chinese name--></translationCn>
        <translationEn><!--English name--></translationEn>
      </PlainText>
      <value min="1" max="100" default="50"/>
    </VcaKeyParamEntry>
  </VcaKeyParam>
  <SwitchLamp>
    <enabled opt="true,false"/>
```

```
  <triggerMode opt="continue,once"/>
  <!--req, triggering mode: "continuous"-continuous triggering, "single"-single triggering -->
  <timeInterval min="0" max="3600" default="120"/>
  <!--req, time interval of continuous alarm triggering, unit: second-->
  <uploadPic opt="false,true"/><!--req, upload alarm picture-->
  <AlarmTime>
   <timeSegNum min="2" max="8"/>
   <!--req, number of arming period per day-->
  </AlarmTime>
  <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/>
  <!--"monitor"-warning on the monitor, "audio"-audible warning, "center"-notify surveillance center, "alarmout"-
trigger alarm output, "picture"-capture JPEG picture and send by email, "wirelesslight"-wireless light and audio alarm,
"uploadftp"-capture picture and upload to FTP-->
  <relRecordChan><!--req, alarm triggered channel recording--></relRecordChan>
 </SwitchLamp>
 <FaceCaptureStatistics><!--req, face capture statistics-->
  <isSupportStartTime>true</isSupportStartTime>
  <reportType opt="daily,weekly,monthly,yearly"/><!--req, report type-->
  <statType opt="age,gender,numberOfPeople"/><!--req, statistics type-->
 </FaceCaptureStatistics>
 <ColorFilter><!--req, color filter>
  <enable opt="true,false"/>
  <ruleID min="" max=""/>
  <sequenceNo min="" max=""/>
  <PicInfo>
   <picType opt="jpg"/>
   <width>true</width>
   <height>true</height>
   <picDataLen min="" max=""/>
  </PicInfo>
 </ColorFilter>
 <HumanRecognition><!--human recognition capability-->
  <MaskRegion><!--shielded region-->
   <maxRegionNum><!--number of regions--></maxRegionNum>
   <Region>
    <vertexNum min="3" max="10"/><!--number of region vertexes-->
   </Region>
  </MaskRegion>
 </HumanRecognition>
 <AtmCabinKeyParam><!--ATM safety cabin key parameters>
  <VcaKeyParam>
   <VcaKeyParamEntry>
    <index><!--index No. of limitation on the number of people of violent motion alarm--></index>
    <PlainText>
     <translationCn>limitation on the number of people of violent motion alarm</translationCn>
     <!--Chinese name-->
     <translationEn>limitation on the number of people of violent motion alarm</translationEn>
     <!--English name-->
    </PlainText>
    <value min="0" max="32" default="2"/>
   </VcaKeyParamEntry>
   <VcaKeyParamEntry>
```

```
      <index><!--index No. of time threshold of tailgating alarm--></index>
      <PlainText>
       <translationCn>time threshold of tailgating alarm</translationCn>
       <!--Chinese name-->
       <translationEn>time threshold of tailgating alarm</translationEn>
       <!--English-->
      </PlainText>
      <value min="1" max="10000" default="1400"/><!--unit: ms-->
     </VcaKeyParamEntry>
     <VcaKeyParamEntry>
      <index><!--index No. of filtering unattended baggage false alarm--></index>
      <PlainText>
       <translationCn>filtering unattended baggage false alarm</translationCn>
        <!--Chinese name-->
       <translationEn>filtering unattended baggage false alarm</translationEn>
        <!--English name-->
      </PlainText>
      <enabled opt="true,false"/>
     </VcaKeyParamEntry>
    </VcaKeyParam>
  </AtmCabinKeyParam>
  <AtmSurroundKeyParam><!--ATM environment key parameters>
   <VcaKeyParam>
    <VcaKeyParamEntry>
     <index><!--index No. of filtering unattended baggage false alarm--></index>
     <PlainText>
      <translationCn>filtering unattended baggage false alarm</translationCn>
      <!--Chinese name-->
      <translationEn>filtering unattended baggage false alarm</translationEn>
      <!--English name-->
     </PlainText>
     <enabled opt="true,false"/>
    </VcaKeyParamEntry>
   </VcaKeyParam>
  </AtmSurroundKeyParam>
  <AtmPanelKeyParam><!--ATM panel key parameters>
   <VcaKeyParam>
    <VcaKeyParamEntry>
     <index><!--index No. of filtering sticking scrip false alarm--></index>
     <PlainText>
      <translationCn>filtering sticking scrip false alarm</translationCn>
      <!--Chinese name-->
      <translationEn>filtering sticking scrip false alarm</translationEn>
      <!--English name-->
     </PlainText>
     <enabled opt="true,false"/>
    </VcaKeyParamEntry>
   </VcaKeyParam>
  </AtmPanelKeyParam>
</VcaChanAbility>
```

Appendix D. Appendixes

D.1 Device Network SDK Errors

The errors that may occur during the device network SDK integration are listed here for reference. You can search for the error descriptions according to the error codes or names returned by a specific API (NET_DVR_GetLastError or NET_DVR_GetErrorMsg).

General Errors

Error Name	Error Code	Error Description
NET_DVR_NOERROR	0	No error.
NET_DVR_PASSWORD_ERROR	1	Incorrect user name or password.
NET_DVR_NOENOUGHPRI	2	No permission.
NET_DVR_NOINIT	3	Uninitialized.
NET_DVR_CHANNEL_ERROR	4	Incorrect channel No.
NET_DVR_OVER_MAXLINK	5	No more device can be connected.
NET_DVR_VERSIONNOMATCH	6	Version mismatches.
NET_DVR_NETWORK_FAIL_CONNECT	7	Connecting to device failed. The device is offline or network connection timed out.
NET_DVR_NETWORK_SEND_ERROR	8	Sending data to device failed.
NET_DVR_NETWORK_RECV_ERROR	9	Receiving data from device failed.
NET_DVR_NETWORK_RECV_TIMEOUT	10	Receiving data from device timed out.
NET_DVR_NETWORK_ERRORDATA	11	The data sent to the device is illegal, or the data received from the device error. E.g. The input data is not supported by the device for remote configuration.
NET_DVR_ORDER_ERROR	12	API calling order error.
NET_DVR_OPERNOPERMIT	13	No permission for this operation.
NET_DVR_COMMANDTIMEOUT	14	Executing device command timed out.
NET_DVR_ERRORSERIALPORT	15	Incorrect serial port No. The specified serial port does not exist.

Error Name	Error Code	Error Description
NET_DVR_ERRORALARMPORT	16	Alarm port No. error. The alarm input or output port of the specified device does not exist.
NET_DVR_PARAMETER_ERROR	17	Incorrect parameter. The input or output parameters of the SDK API is empty, or the parameter value or format is invalid.
NET_DVR_CHAN_EXCEPTION	18	Device channel is in exception status.
NET_DVR_NODISK	19	No HDD in the device.
NET_DVR_ERRORDISKNUM	20	Incorrect HDD No.
NET_DVR_DISK_FULL	21	HDD full.
NET_DVR_DISK_ERROR	22	HDD error.
NET_DVR_NOSUPPORT	23	Device does not support this function.
NET_DVR_BUSY	24	Device is busy.
NET_DVR_MODIFY_FAIL	25	Failed to edit device parameters.
NET_DVR_PASSWORD_FORMAT_ ERROR	26	Invalid password format.
NET_DVR_DISK_FORMATING	27	HDD is formatting. Failed to startup.
NET_DVR_DVRNORESOURCE	28	Insufficient device resources.
NET_DVR_DVROPRATEFAILED	29	Device operation failed.
NET_DVR_OPENHOSTSOUND_FAIL	30	Failed to collect local audio data or open audio output during two-way audio and broadcast.
NET_DVR_DVRVOICEOPENED	31	Two-way audio channel is occupied.
NET_DVR_TIMEINPUTERROR	32	Incorrect time input.
NET_DVR_NOSPECFILE	33	No video file for playback.
NET_DVR_CREATEFILE_ERROR	34	Failed to create a file during local recording, saving picture, getting configuration file or downloading video file remotely.
NET_DVR_FILEOPENFAIL	35	Failed to open a file. The file does not exist or directory error.

Error Name	Error Code	Error Description
NET_DVR_OPERNOTFINISH	36	Operation conflicted.
NET_DVR_GETPLAYTIMEFAIL	37	Failed to get the current played time.
NET_DVR_PLAYFAIL	38	Failed to play.
NET_DVR_FILEFORMAT_ERROR	39	Invalid file format.
NET_DVR_DIR_ERROR	40	File directory error.
NET_DVR_ALLOC_RESOURCE_ERROR	41	Allocating resources failed.
NET_DVR_AUDIO_MODE_ERROR	42	Invalid sound card mode error. The opened sound play mode and configured mode mismatched.
NET_DVR_NOENOUGH_BUF	43	Insufficient buffer for receiving data or saving picture.
NET_DVR_CREATESOCKET_ERROR	44	Failed to create SOCKET.
NET_DVR_SETSOCKET_ERROR	45	Failed to set SOCKET.
NET_DVR_MAX_NUM	46	No more registrations and live views can be connected.
NET_DVR_USERNOTEXIST	47	The user doest not exist. The user ID is logged out or unavailable.
NET_DVR_WRITEFLASHERROR	48	Writing FLASH error during device upgrade.
NET_DVR_UPGRADEFAIL	49	Failed to upgrade device. Network problem or language mismatches.
NET_DVR_CARDHAVEINIT	50	The decoding card is already initialized.
NET_DVR_PLAYERFAILED	51	Failed to call the function of player SDK.
NET_DVR_MAX_USERNUM	52	No more users can log in to.
NET_DVR_GETLOCALIPANDMACFAIL	53	Failed to get the IP address or physical address of local PC.
NET_DVR_NOENCODEING	54	The decoding function of this channel is not enabled.
NET_DVR_IPMISMATCH	55	IP address mismatches.

Error Name	Error Code	Error Description
NET_DVR_MACMISMATCH	56	MAC address mismatches.
NET_DVR_UPGRADELANGMISMATCH	57	The language of upgrade file mismatches.
NET_DVR_MAX_PLAYERPORT	58	No more channels can be started to play.
NET_DVR_NOSPACEBACKUP	59	Insufficient space to back up file.
NET_DVR_NODEVICEBACKUP	60	No backup device found.
NET_DVR_PICTURE_BITS_ERROR	61	Picture pixel bit mismatches. Only 24 bits are allowed.
NET_DVR_PICTURE_DIMENSION_ERROR	62	Too large picture. The height*width should be less than 128x256.
NET_DVR_PICTURE_SIZ_ERROR	63	Too large picture. The picture size should be smaller than 100K.
NET_DVR_LOADPLAYERSDKFAILED	64	Failed to load the player(PlayCtrl.dll, SuperRender.dll, AudioRender.dll) to the current directory.
NET_DVR_LOADPLAYERSDKPROC_ERROR	65	Failed to find the function in player SDK.
NET_DVR_LOADDSSDKFAILED	66	Failed to load the DS SDK to the current directory.
NET_DVR_LOADDSSDKPROC_ERROR	67	Failed to find the function in the DS SDK.
NET_DVR_DSSDK_ERROR	68	Failed to call the API in the hardware decoding library.
NET_DVR_VOICEMONOPOLIZE	69	The sound card is exclusive.
NET_DVR_JOINMULTICASTFAILED	70	Failed to join to multicast group.
NET_DVR_CREATEDIR_ERROR	71	Failed to create log file directory.
NET_DVR_BINDSOCKET_ERROR	72	Failed to bind socket.
NET_DVR_SOCKETCLOSE_ERROR	73	Socket disconnected. Network disconnected or the destination is unreachable.

Error Name	Error Code	Error Description
NET_DVR_USERID_ISUSING	74	Operation is executing. Failed to log out.
NET_DVR_SOCKETLISTEN_ERROR	75	Failed to listen.
NET_DVR_PROGRAM_EXCEPTION	76	Program exception.
NET_DVR_WRITEFILE_FAILED	77	Failed to write file during local recording, downloading file remotely or saving picture.
NET_DVR_FORMAT_READONLY	78	The HDD is read-only. Formatting is forbidden.
NET_DVR_WITHSAMEUSERNAME	79	The user name already exists.
NET_DVR_DEVICETYPE_ERROR	80	Device model mismatches when importing parameters.
NET_DVR_LANGUAGE_ERROR	81	Language mismatches when importing parameters.
NET_DVR_PARAVERSION_ERROR	82	Software version mismatches when importing parameters.
NET_DVR_IPCHAN_NOTALIVE	83	The external IP channel is offline live view.
NET_DVR_RTSP_SDK_ERROR	84	Failed to load StreamTransClient.dll.
NET_DVR_CONVERT_SDK_ERROR	85	Failed to load SystemTransform.dll.
NET_DVR_IPC_COUNT_OVERFLOW	86	No more IP channels can access to.
NET_DVR_MAX_ADD_NUM	87	No more video tags can be added.
NET_DVR_PARAMMODE_ERROR	88	Invalid parameter mode of image enhancement.
NET_DVR_CODESPITTER_OFFLINE	89	Code distributer is offline.
NET_DVR_BACKUP_COPYING	90	Device is backing up.
NET_DVR_CHAN_NOTSUPPORT	91	This operation is not supported by the channel.
NET_DVR_CALLINEINVALID	92	The height line is too concentrated, or the length line is not inclined enough.

Error Name	Error Code	Error Description
NET_DVR_CALCANCELCONFLICT	93	Cancel calibration conflict, if the rule and global actual size filter are configured.
NET_DVR_CALPOINTOUTRANGE	94	The calibration point is out of limitation.
NET_DVR_FILTERRECTINVALID	95	The size filter does not meet the requirement.
NET_DVR_DDNS_DEVOFFLINE	96	Device has not registered to DDNS.
NET_DVR_DDNS_INTER_ERROR	97	DDNS internal error.
NET_DVR_FUNCTION_NOT_ SUPPORT_OS	98	This function is not supported by this Operating system.
NET_DVR_DEC_CHAN_REBIND	99	Decoding channel binding display output is limited.
NET_DVR_INTERCOM_SDK_ERROR	100	Failed to load the two-way audio SDK of the current directory.
NET_DVR_NO_CURRENT_UPDATEFILE	101	No correct upgrade packet.
NET_DVR_USER_NOT_SUCC_LOGIN	102	Login failed.
NET_DVR_USE_LOG_SWITCH_FILE	103	The log switch file is under using.
NET_DVR_POOL_PORT_EXHAUST	104	No port can be bound in the port pool.
NET_DVR_PACKET_TYPE_NOT_ SUPPORT	105	Incorrect stream packaging format.
NET_DVR_IPPARA_IPID_ERROR	106	Incorrect IPID for IP access configuration.
NET_DVR_LOAD_HCPREVIEW_SDK_ ERROR	107	Failed to load the live view component.
NET_DVR_LOAD_HCVOICETALK_SDK_ ERROR	108	Failed to load the audio component.
NET_DVR_LOAD_HCALARM_SDK_ ERROR	109	Failed to load the alarm component.
NET_DVR_LOAD_HCPLAYBACK_SDK_ ERROR	110	Failed to load the playback component.

Error Name	Error Code	Error Description
NET_DVR_LOAD_HCDISPLAY_SDK_ERROR	111	Failed to load the display component.
NET_DVR_LOAD_HCINDUSTRY_SDK_ERROR	112	Failed to load application component.
NET_DVR_LOAD_HCGENERALCFGMGR_SDK_ERROR	113	Failed to load the general configuration management component.
NET_DVR_CORE_VER_MISMATCH	121	Component version and core version mismatched when loading the component singly.
NET_DVR_CORE_VER_MISMATCH_HCPREVIEW	122	Live view component version and core version mismatched.
NET_DVR_CORE_VER_MISMATCH_HCVOICETALK	123	Audio component version and the core version mismatched.
NET_DVR_CORE_VER_MISMATCH_HCALARM	124	Alarm component version and the core version mismatched.
NET_DVR_CORE_VER_MISMATCH_HCPLAYBACK	125	Playback component version and the core version mismatched.
NET_DVR_CORE_VER_MISMATCH_HCDISPLAY	126	Display component version and the core version mismatched.
NET_DVR_CORE_VER_MISMATCH_HCINDUSTRY	127	Application component version and the core version mismatched.
NET_DVR_CORE_VER_MISMATCH_HCGENERALCFGMGR	128	General configuration management component version and the core version mismatched.
NET_DVR_COM_VER_MISMATCH_HCPREVIEW	136	Live view component version and SDK version mismatched.
NET_DVR_COM_VER_MISMATCH_HCVOICETALKy	137	Audio component version and SDK version mismatched.
NET_DVR_COM_VER_MISMATCH_HCALARM	138	Alarm component version and SDK version mismatched.
NET_DVR_COM_VER_MISMATCH_HCPLAYBACK	139	Playback component version and SDK version mismatched.

Error Name	Error Code	Error Description
NET_DVR_COM_VER_MISMATCH_HCDISPLAY	140	Display component version and SDK version mismatched.
NET_DVR_COM_VER_MISMATCH_HCINDUSTRY	141	Application component version and SDK version mismatched.
NET_DVR_COM_VER_MISMATCH_HCGENERALCFGMGR	142	General configuration management component version and SDK version mismatched.
NET_DVR_ALIAS_DUPLICATE	150	Duplicated alias(for HiDDNS configuration).
NET_DVR_USERNAME_NOT_EXIST	152	User name does not exist (error code of network camera and network speed dome with version from 5.1.7 to 5.3.1).
NET_ERR_USERNAME_LOCKED	153	The user name is locked.
NET_DVR_INVALID_USERID	154	Invalid user ID.
NET_DVR_LOW_LOGIN_VERSION	155	The version is too low.
NET_DVR_LOAD_LIBEAY32_DLL_ERROR	156	Failed to load libeay32.dl.l
NET_DVR_LOAD_SSLEAY32_DLL_ERROR	157	Failed to load ssleay32.dll.
NET_ERR_LOAD_LIBICONV	158	Failed to load libiconv.dll.
NET_ERR_SSL_CONNECT_FAILED	159	Connecting to SSL failed.
NET_DVR_TEST_SERVER_FAIL_CONNECT	165	Failed to connect to test server.
NET_DVR_NAS_SERVER_INVALID_DIR	166	Failed to load NAS server to the directory, Invalid directory, or incorrect user name and password.
NET_DVR_NAS_SERVER_NOENOUGH_PRI	167	Failed to load NAS server th the directory. No permission.
NET_DVR_EMAIL_SERVER_NOT_CONFIG_DNS	168	The server uses domain name without configuring DNS, the domain name may be invalid.

Error Name	Error Code	Error Description
NET_DVR_EMAIL_SERVER_NOT_ CONFIG_GATEWAY	169	No gateway configured. Sending email may be failed.
NET_DVR_TEST_SERVER_PASSWORD_ ERROR	170	Incorrect user name or password of test server.
NET_DVR_EMAIL_SERVER_CONNECT_ EXCEPTION_WITH_SMTP	171	Interaction exception between device and SMTP server.
NET_DVR_FTP_SERVER_FAIL_ CREATE_DIR	172	FTP server creating directory failed.
NET_DVR_FTP_SERVER_NO_WRITE_ PIR	173	FTP server has no wirting permission.
NET_DVR_IP_CONFLICT	174	IP conflicted.
NET_DVR_INSUFFICIENT_ STORAGEPOOL_SPACE	175	Storage pool space is full.
NET_DVR_STORAGEPOOL_INVALID	176	Invalid cloud storage pool. No storage pool configured or incorrect storage pool ID.
NET_DVR_EFFECTIVENESS_REBOOT	177	Restart to take effect.
NET_ERR_ANR_ARMING_EXIST	178	The ANR arming connection already exists(the error will be returned when arming with ANR function if the private SDK protocol arming connection is established).
NET_ERR_UPLOADLINK_EXIST	179	The ANR uploading connection already exists(the error will be returned when EHome protocol and private SDK protocol do not support ANR at the same time).
NET_ERR_INCORRECT_FILE_FORMAT	180	The imported file format is incorrect.
NET_ERR_INCORRECT_FILE_CONTENT	181	The imported file content is incorrect.
NET_ERR_MAX_HRUDP_LINK	182	No more HRUDP can be connected to device.
NET_ERR_MAX_PORT_MULTIPLEX	183	Maximum number of multiplexed ports reaches.
NET_ERR_CREATE_PORT_MULTIPLEX	184	Creating port multiplier failed.

Error Name	Error Code	Error Description
NET_DVR_NONBLOCKING_CAPTURE_NOTSUPPORT	185	Non-blocking picture capture is not supported.
NET_SDK_ERR_FUNCTION_INVALID	186	Invalid function. The asynchronous mode is enabled.
NET_SDK_ERR_MAX_PORT_MULTIPLEX	187	Maximum number of multiplex ports reached.
NET_DVR_INVALID_LINK	188	Link has not been created or the link is invalid.
NET_DVR_NAME_NOT_ONLY	200	This name already exists.
NET_DVR_OVER_MAX_ARRAY	201	The number of RAID reaches the upper-limit.
NET_DVR_OVER_MAX_VD	202	The number of virtual disk reaches the upper-limit.
NET_DVR_VD_SLOT_EXCEED	203	The virtual disk slots are full.
NET_DVR_PD_STATUS_INVALID	204	The physical disk for rebuilding RAID is error.
NET_DVR_PD_BE_DEDICATE_SPARE	205	The physical disk for rebuilding RAID is specified as hot spare.
NET_DVR_PD_NOT_FREE	206	The physical disk for rebuilding RAID is busy.
NET_DVR_CANNOT_MIG2NEWMODE	207	Failed to migrate the current RAID type to the new type.
NET_DVR_MIG_PAUSE	208	Migration is paused.
NET_DVR_MIG_ABOUTED	209	Migration is cancelled.
NET_DVR_EXIST_VD	210	Failed to delete RAID. Virtual disk exists in the RAID.
NET_DVR_TARGET_IN_LD_FUNCTIONAL	211	Target physical disk is a part of the virtual disk and it is working normally.
NET_DVR_HD_IS_ASSIGNED_ALREADY	212	The specified physical disk is allocated as virtual disk.
NET_DVR_INVALID_HD_COUNT	213	The number of physical disks and specified RAID level mismatched.

Error Name	Error Code	Error Description
NET_DVR_LD_IS_FUNCTIONAL	214	The RAID is normal. Failed to rebuild.
NET_DVR_BGA_RUNNING	215	Background task is executing.
NET_DVR_LD_NO_ATAPI	216	Failed to create virtual disk by ATAPI disk.
NET_DVR_MIGRATION_NOT_NEED	217	There is no need to migrate the RAID.
NET_DVR_HD_TYPE_MISMATCH	218	The physical disk type is not allowed.
NET_DVR_NO_LD_IN_DG	219	No virtual disk. Operation failed.
NET_DVR_NO_ROOM_FOR_SPARE	220	Insufficient disk space. Failed to allocate the disk as hot spare.
NET_DVR_SPARE_IS_IN_MULTI_DG	221	The disk is already allocated as the hot spare of one RAID.
NET_DVR_DG_HAS_MISSING_PD	222	No disk in the RAID.
NET_DVR_NAME_EMPTY	223	The name is empty.
NET_DVR_INPUT_PARAM	224	Incorrect input parameters.
NET_DVR_PD_NOT_AVAILABLE	225	The physical disk is not available.
NET_DVR_ARRAY_NOT_AVAILABLE	226	The RAID is not available.
NET_DVR_PD_COUNT	227	Incorrect number of physical disks.
NET_DVR_VD_SMALL	228	Insufficient virtual disk space.
NET_DVR_NO_EXIST	229	Not exist.
NET_DVR_NOT_SUPPORT	230	This operation is not supported.
NET_DVR_NOT_FUNCTIONAL	231	The RAID status is exception.
NET_DVR_DEV_NODE_NOT_FOUND	232	The device node of virtual disk does not exist.
NET_DVR_SLOT_EXCEED	233	No more slots are allowed.
NET_DVR_NO_VD_IN_ARRAY	234	No virtual disk exists in the RAID.
NET_DVR_VD_SLOT_INVALID	235	Invalid virtual disk slot.
NET_DVR_PD_NO_ENOUGH_SPACE	236	Insufficient physical disk space.
NET_DVR_ARRAY_NONFUNCTION	237	Only the RAID in normal status supports to be migrated.

Error Name	Error Code	Error Description
NET_DVR_ARRAY_NO_ENOUGH_SPACE	238	Insufficient RAID space.
NET_DVR_STOPPING_SCANNING_ARRAY	239	Pulling disk out safely or rescanning.
NET_DVR_NOT_SUPPORT_16T	240	Creating RAID with size larger than 16T is not supported.
NET_DVR_ERROR_DEVICE_NOT_ACTIVATED	250	The device is not activated (login failed.)
NET_DVR_ERROR_RISK_PASSWORD	251	Risky password.
NET_DVR_ERROR_DEVICE_HAS_ACTIVATED	252	The device is already activated.
NET_DVR_ID_ERROR	300	The configured ID is invalid.
NET_DVR_POLYGON_ERROR	301	Invalid polygon shape.
NET_DVR_RULE_PARAM_ERROR	302	Invalid rule parameters.
NET_DVR_RULE_CFG_CONFLICT	303	Configured information conflicted.
NET_DVR_CALIBRATE_NOT_READY	304	No calibration information.
NET_DVR_CAMERA_DATA_ERROR	305	Invalid camera parameters.
NET_DVR_CALIBRATE_DATA_UNFIT	306	Invalid inclination angle for calibration.
NET_DVR_CALIBRATE_DATA_CONFILICT	307	Calibration error.
NET_DVR_CALIBRATE_CALC_FAIL	308	Failed to calculate calibration parameter values of camera.
NET_DVR_CALIBRATE_LINE_OUT_RECT	309	The inputted calibration line exceeds the external sample rectangle.
NET_DVR_ENTER_RULE_NOT_READY	310	No region entrance is configured.
NET_DVR_AID_RULE_NO_INCLUDE_LANE	311	No lane configured in the traffic event rull(especially for traffic jam or driving against the traffic).
NET_DVR_LANE_NOT_READY	312	Lane not configured.
NET_DVR_RULE_INCLUDE_TWO_WAY	313	Two different directions are contained in event rule.

Error Name	Error Code	Error Description
NET_DVR_LANE_TPS_RULE_CONFLICT	314	Lane and data rule conflicted.
NET_DVR_NOT_SUPPORT_EVENT_TYPE	315	This event type is not supported.
NET_DVR_LANE_NO_WAY	316	The lane has no direction.
NET_DVR_SIZE_FILTER_ERROR	317	Invalid size of filter frame.
NET_DVR_LIB_FFL_NO_FACE	318	No face picture exists in the image inputted when positioning feature point.
NET_DVR_LIB_FFL_IMG_TOO_SMALL	319	The inputted image is too small when positioning feature point.
NET_DVR_LIB_FD_IMG_NO_FACE	320	No face picture exists in the image inputted when detecting single face picture.
NET_DVR_LIB_FACE_TOO_SMALL	321	Face picture is too small when building model.
NET_DVR_LIB_FACE_QUALITY_TOO_BAD	322	The face picture quality is too poor when building model.
NET_DVR_KEY_PARAM_ERR	323	The configured advanced parameter is incorrect.
NET_DVR_CALIBRATE_DATA_ERR	324	Calibration sample number error, or data value error, or the sample points are beyond the horizontal line.
NET_DVR_CALIBRATE_DISABLE_FAIL	325	Canceling calibration is not allowed for configured rules.
NET_DVR_VCA_LIB_FD_SCALE_OUTRANGE	326	The minimum width and height of maximum filter frame are twice or more larger than the maximum width and height of minimum filter frame.
NET_DVR_LIB_FD_REGION_TOO_LARGE	327	Too large detection region. The maximum region should be 2/3 of the image.
NET_DVR_TRIAL_OVERDUE	328	Trial period is ended.
NET_DVR_CONFIG_FILE_CONFLICT	329	Device type and configuration file conflicted.

Error Name	Error Code	Error Description
NET_DVR_FR_FPL_FAIL	330	Failed to positioning face feature points.
NET_DVR_FR_IQA_FAIL	331	Failed to test face picture quality.
NET_DVR_FR_FEM_FAIL	332	Failed to extract the face feature points.
NET_DVR_FPL_DT_CONF_TOO_LOW	333	The face detection validity is too low when positioning face feature points.
NET_DVR_FPL_CONF_TOO_LOW	334	The validity of feature points positionong is too low.
NET_DVR_E_DATA_SIZE	335	Data size mismatches.
NET_DVR_FR_MODEL_VERSION_ERR	336	Incorrect model version in face model library.
NET_DVR_FR_FD_FAIL	337	Failed to detect face in the face recognition library.
NET_DVR_FA_NORMALIZE_ERR	338	Failed to normalize face attribute.
NET_DVR_DOG_PUSTREAM_NOT_ MATCH	339	Dongle type and camera type mismatched.
NET_DVR_DEV_PUSTREAM_NOT_ MATCH	340	Camera version mismatches.
NET_DVR_PUSTREAM_ALREADY_ EXISTS	341	This camera is already added to other channels of devices.
NET_DVR_SEARCH_CONNECT_FAILED	342	Failed to connect to face retrieval server.
NET_DVR_INSUFFICIENT_DISK_SPACE	343	Insufficient storage space.
NET_DVR_DATABASE_CONNECTION_ FAILED	344	Failed to connect to database.
NET_DVR_DATABASE_ADM_PW_ ERROR	345	Incorrect database user name and password.
NET_DVR_DECODE_YUV	346	Decoding failed.
NET_DVR_IMAGE_RESOLUTION_ ERROR	347	Invalid picture resolution

Error Name	Error Code	Error Description
NET_DVR_CHAN_WORKMODE_ ERROR	348	Invalid channel working mode.
NET_ERROR_TRUNK_LINE	711	Sub system is configured as the trunk line.
NET_ERROR_MIXED_JOINT	712	Mixed joint is not supported.
NET_ERROR_DISPLAY_SWITCH	713	Switch of display channel is not supported.
NET_ERROR_USED_BY_BIG_SCREEN	714	Decoded resource is occupied by the big screen.
NET_ERROR_USE_OTHER_DEC_ RESOURCE	715	Using resources of other sub system is not allowed.
NET_ERROR_SCENE_USING	717	The scene is being used.
NET_ERR_NO_ENOUGH_DEC_ RESOURCE	718	Insufficient resources for decoding.
NET_ERR_NO_ENOUGH_FREE_ SHOW_RESOURCE	719	Insufficient resources for display.
NET_ERR_NO_ENOUGH_VIDEO_ MEMORY	720	Insufficient video storage resources.
NET_ERR_MAX _VIDEO_NUM	721	Insufficient resources for multiple channels.
NET_ERR_WINDOW_COVER_FREE_ SHOW_AND_NORMAL	722	Windows cover free display output channel and normal output channel.
NET_ERR_FREE_SHOW_WINDOW_ SPLIT	723	Window division is not supported for free display windows.
NET_ERR_INAPPROPRIATE_ WINDOW_FREE_SHOW	724	For the windows whose number is not integral multiple of the number of output channels, free display is not supported.
NET_DVR_TRANSPARENT_WINDOW_ NOT_SUPPORT_SPLIT	725	For windows whose transparency configuration is enabled, window division is not supported.
NET_DVR_SPLIT_WINDOW_NOT_ SUPPORT_TRANSPARENT	726	For windows whose window division is enabled, transparency configuration is not supported.

Error Name	Error Code	Error Description
NET_ERR_TERMINAL_BUSY	780	The terminal busy.
NET_DVR_FUNCTION_RESOURCE_ USAGE_ERROR	791	Failed to enable this function. The resources is occupied by other functions.
NET_DVR_DEV_NET_OVERFLOW	800	Network traffic is out of the limitation.
NET_DVR_STATUS_RECORDFILE_ WRITING_NOT_LOCK	801	Failed to lock. The video file is recording.
NET_DVR_STATUS_CANT_FORMAT_ LITTLE_DISK	802	Failed to format HDD. The HDD space is too small.
NET_SDK_ERR_REMOTE_DISCONNEC	803	Failed to connect to the remote terminal.
NET_SDK_ERR_RD_ADD_RD	804	Spare server cannot be added to spare server.
NET_SDK_ERR_BACKUP_DISK_EXCEPT	805	Backup disk exception.
NET_SDK_ERR_RD_LIMIT	806	No more spare server can be added.
NET_SDK_ERR_ADDED_RD_IS_WD	807	The added spare server is a working server.
NET_SDK_ERR_ADD_ORDER_WRONG	808	Adding flow error.
NET_SDK_ERR_WD_ADD_WD	809	Working server cannot be added to working server.
NET_SDK_ERR_WD_SERVICE_EXCETP	810	CVR service exception (For N+1 mode, it refers to CVR working server exception).
NET_SDK_ERR_RD_SERVICE_EXCETP	811	Spare CVR server exception.
NET_SDK_ERR_ADDED_WD_IS_RD	812	The added working server is spare server.
NET_SDK_ERR_PERFORMANCE_LIMIT	813	The performance reaches the upper-limit.
NET_SDK_ERR_ADDED_DEVICE_EXIST	814	This device already exists.
NET_SDK_ERR_INQUEST_RESUMING	815	Inquest resuming.
NET_SDK_ERR_RECORD_BACKUPING	816	Inquest video backing up.

Error Name	Error Code	Error Description
NET_SDK_ERR_DISK_PLAYING	817	Playing.
NET_SDK_ERR_INQUEST_STARTED	818	Inquest started.
NET_SDK_ERR_LOCAL_OPERATING	819	Locally operating.
NET_SDK_ERR_INQUEST_NOT_START	820	Inquest is not started.
NET_SDK_ERR_CHAN_AUDIO_BIND	821	The channel is not bound or binding two-way audio failed.
NET_DVR_N_PLUS_ONE_MODE	822	Ddevice is in N+1 mode. Cloud storage is not supported.
NET_DVR_CLOUD_STORAGE_OPENED	823	Cloud storage mode is enbaled.
NET_DVR_ERR_OPER_NOT_ALLOWED	824	Operation failed. The device is in N+0 taken over status.
NET_DVR_ERR_NEED_RELOCATE	825	The device is in N+0 taken over status. Get re-positioning information and try again.
NET_SDK_ERR_IR_PORT_ERROR	830	IR output error.
NET_SDK_ERR_IR_CMD_ERROR	831	IR output port command number error
NET_SDK_ERR_NOT_INQUESTING	832	Device is not in inquest status.
NET_SDK_ERR_INQUEST_NOT_ PAUSED	833	Device is not in paused status.
NET_DVR_CHECK_PASSWORD_ MISTAKE_ERROR	834	Incorrect verification code.
NET_DVR_CHECK_PASSWORD_NULL_ ERROR	835	Verification code is required.
NET_DVR_UNABLE_CALIB_ERROR	836	Failed to calibrate.
NET_DVR_PLEASE_CALIB_ERROR	837	Calibration first.
NET_DVR_ERR_PANORAMIC_CAL_ EMPTY	838	Panoramic calibration is empty in Flash.
NET_DVR_ERR_CALIB_FAIL_ PLEASEAGAIN	839	Calibration failed, please try again.

Error Name	Error Code	Error Description
NET_DVR_ERR_DETECTION_LINE	840	Rule line configuration error. Please try again and make sure the line is within the red region.
NET_DVR_EXCEED_FACE_IMAGES_ ERROR	843	No more face pictures can be added.
NET_DVR_ANALYSIS_FACE_IMAGES_ ERROR	844	Picture recognition failed.
NET_ERR_ALARM_INPUT_OCCUPIED	845	A<-1 alarm number is used for triggering vehicle capture.
NET_DVR_FACELIB_DATABASE_ERROR	846	Database version in face picture library mismatched.
NET_DVR_FACELIB_DATA_ERROR	847	Face picture library data error.
NET_DVR_FACE_DATA_ID_ERROR	848	Invalid face data PID.
NET_DVR_FACELIB_ID_ERROR	849	Invalid face picture library ID.
NET_DVR_EXCEED_FACE_LIBARY_ ERROR	850	No more face picture libraries can be established..
NET_DVR_PIC_ANALYSIS_NO_ TARGET_ERROR	851	No target recognized in the picture.
NET_DVR_SUBPIC_ANALYSIS_ MODELING_ERROR	852	Sub picture modeling failed.
NET_DVR_PIC_ANALYSIS_NO_ RESOURCE_ERROR	853	No VCA engine supports picture secondary recognition.
NET_DVR_ANALYSIS_ENGINES_NO_ RESOURCE_ERROR	854	No VCA engine.
NET_DVR_ANALYSIS_ENGINES_ USAGE_EXCEED_ERROR	855	Overload. The engine CPU reached 100%.
NET_DVR_EXCEED_HUMANMISINFO_ FILTER_ENABLED_ERROR	856	No more false alarm channel can be enabled.
NET_DVR_NAME_ERROR	857	Name error.
NET_DVR_NAME_EXIST_ERROR	858	The name already exists.
NET_DVR_FACELIB_PIC_IMPORTING_ ERROR	859	The pictures is importing to face picture library.

Error Name	Error Code	Error Description
NET_DVR_PIC_FORMAT_ERROR	864	Invalid picture format.
NET_DVR_PIC_RESOLUTION_ INVALID_ERROR	865	Invalid picture resolution.
NET_DVR_PIC_SIZE_EXCEED_ERROR	866	The picture size is too large.
NET_DVR_PIC_ANALYSIS_TARGRT_ NUM_EXCEED_ERROR	867	Too many targets in the picture.
NET_DVR_ANALYSIS_ENGINES_ LOADING_ERROR	868	Initializing analysis engine.
NET_DVR_ANALYSIS_ENGINES_ ABNORMA_ERROR	869	Analysis engine exception.
NET_DVR_ANALYSIS_ENGINES_ FACELIB_IMPORTING	870	Analysis engine is importing pictures to face picture library.
NET_DVR_NO_DATA_FOR_ MODELING_ERROR	871	No data for modeling.
NET_DVR_FACE_DATA_MODELING_ ERROR	872	Device is modeling picture. Concurrent processing is not supported.
NET_ERR_FACELIBDATA_OVERLIMIT	873	No more face picture can be added to the device (the data of imported face picture library)
NET_DVR_ANALYSIS_ENGINES_ ASSOCIATED_CHANNEL	874	Channel is linked to the analysis engine.
NET_DVR_ERR_CUSTOMID_LEN	875	The minimum length of upper layer custom ID is 32 bytes.
NET_DVR_ERR_CUSTOMFACELIBID_ REPEAT	876	The applied custom face picture library ID is duplicated
NET_DVR_ERR_CUSTOMHUMANID_ REPEAT	877	The applied custom person ID is duplicated.
NET_DVR_ERR_URL_DOWNLOAD_ FAIL	878	URL download failed.
NET_DVR_ERR_URL_DOWNLOAD_ NOTSTART	879	URL download has not started.

Error Name	Error Code	Error Description
NET_DVR_CFG_FILE_SECRETKEY_ERROR	880	The security verification key of configuration file is error.
NET_DVR_THERMOMETRY_REGION_OVERSTEP_ERROR	883	Invalid thermometry region
NET_DVR_ERR_TOO_SHORT_CALIBRATING_TIME	894	Too short time for calibration.
NET_DVR_ERR_AUTO_CALIBRATE_FAILED	895	Auto calibration failed.
NET_DVR_ERR_VERIFICATION_FAILED	896	Verification failed.
NET_DVR_NO_TEMP_SENSOR_ERROR	897	No temperature sensor.
NET_DVR_PUPIL_DISTANCE_OVERSIZE_ERROR	898	The pupil distance is too large.
NET_ERR_WINCHAN_IDX	901	Window channel index error.
NET_ERR_WIN_LAYER	902	Window layer number error(the count of window layers on a single screen exceeds the max number).
NET_ERR_WIN_BLK_NUM	903	Window block number error(the count of screens that single window overlays exceeds the max number).
NET_ERR_OUTPUT_RESOLUTION	904	The output resolution error.
NET_ERR_LAYOUT	905	Layout index error.
NET_ERR_INPUT_RESOLUTION	906	The input resolution is not supported.
NET_ERR_SUBDEVICE_OFFLINE	907	The sub-device is off-line.
NET_ERR_NO_DECODE_CHAN	908	There is no free decoding channel.
NET_ERR_MAX_WINDOW_ABILITY	909	The upper limit of window number.
NET_ERR_ORDER_ERROR	910	Calling order error.
NET_ERR_PLAYING_PLAN	911	Be playing plan.
NET_ERR_DECODER_USED	912	Decoder board is being used.
NET_ERR_OUTPUT_BOARD_DATA_OVERFLOW	913	Output board data overflow
NET_ERR_SAME_USER_NAME	914	Duplicate user name

Error Name	Error Code	Error Description
NET_ERR_INVALID_USER_NAME	915	Invalid user name
NET_ERR_MATRIX_USING	916	Input matrix is in use.
NET_ERR_DIFFERENT_CHAN_TYPE	917	Different channel type (the type of matrix output channel mismatches that of the controller input channel)
NET_ERR_INPUT_CHAN_BINDED	918	Input channel has been bound by other matrix
NET_ERR_BINDED_OUTPUT_CHAN_ OVERFLOW	919	The matrix output channels in use exceeded the number bound by matrix and controller
NET_ERR_MAX_SIGNAL_NUM	920	Number of input signals reached upper limit
NET_ERR_INPUT_CHAN_USING	921	Input channel is in use
NET_ERR_MANAGER_LOGON	922	Administrator has logged in, operation failed
NET_ERR_USERALREADY_LOGON	923	The user has logged in, operation failed
NET_ERR_LAYOUT_INIT	924	Scene is initializing, operation failed
NET_ERR_BASEMAP_SIZE_NOT_ MATCH	925	Base image size does not match
NET_ERR_WINDOW_OPERATING	926	Window is in other operation, operation failed
NET_ERR_SIGNAL_UPLIMIT	927	Number of signal source window reached upper limit
NET_ERR_WINDOW_SIZE_OVERLIMIT	943	The window size exceeds the limit.
NET_ERR_MAX_WIN_OVERLAP	951	The number of windows overlap has reached the maximum limit.
NET_ERR_STREAMID_CHAN_BOTH_ VALID	952	stream ID and channel number are both valid.
NET_ERR_NO_ZERO_CHAN	953	The device has no zero channel.
NEED_RECONNECT	955	Need redirection (for transcoding system)

Error Name	Error Code	Error Description
NET_ERR_NO_STREAM_ID	956	The stream ID does not exist.
NET_DVR_TRANS_NOT_START	957	The transcoding has not been started.
NET_ERR_MAXNUM_STREAM_ID	958	The number of stream ID has reached the maximum limit.
NET_ERR_WORKMODE_MISMATCH	959	The work mode does not match with the requirement.
NET_ERR_MODE_IS_USING	960	It Has been working in current mode.
NET_ERR_DEV_PROGRESSING	961	The device is in processing
NET_ERR_PASSIVE_TRANSCODING	962	It is in transcoding.
NET_DVR_ERR_WINDOW_SIZE_ PLACE	975	Wrong window position.
NET_DVR_ERR_RGIONAL_ RESTRICTIONS	976	Screen distance exceeds the limit.
NET_DVR_ERR_CLOSE_WINDOWS	984	Operation failed. Close the window first.
NET_DVR_ERR_MATRIX_LOOP_ ABILITY	985	Beyond the cycle decoding capacity.
NET_DVR_ERR_MATRIX_LOOP_TIME	986	Invalid cycle decoding time.
NET_DVR_ERR_LINKED_OUT_ABILITY	987	No more linked camera can be added.
NET_ERR_RESOLUTION_NOT_ SUPPORT_ODD_VOUT	990	The resolution is not supported (odd No.).
NET_ERR_RESOLUTION_NOT_ SUPPORT_EVEN_VOUT	991	The resolution is not supported (even No.).
NET_ERR_UnitConfig_Failed	998	Unit configuration failed.
XML_ABILITY_NOTSUPPORT	1000	Getting capability node is not supported
XML_ANALYZE_NOENOUGH_BUF	1001	Not enough output memory
XML_ANALYZE_FIND_LOCALXML_ ERROR	1002	Failed to find related local xml
XML_ANALYZE_LOAD_LOCALXML_ ERROR	1003	Loading local xml error

Error Name	Error Code	Error Description
XML_NANLYZE_DVR_DATA_FORMAT_ ERROR	1004	Device capability data format error
XML_ANALYZE_TYPE_ERROR	1005	Capability set type error
XML_ANALYZE_XML_NODE_ERROR	1006	XML capability node format error
XML_INPUT_PARAM_ERROR	1007	Input capability XML node value error
XML_VERSION_MISMATCH	1008	XML version does not match
NET_ERR_TRANS_CHAN_START	1101	Transparent channel has been open, operation failed
NET_ERR_DEV_UPGRADING	1102	Device is upgrading
NET_ERR_MISMATCH_UPGRADE_ PACK_TYPE	1103	Upgrade pack type does not match
NET_ERR_DEV_FORMATTING	1104	Device is formatting
NET_ERR_MISMATCH_UPGRADE_ PACK_VERSION	1105	Upgrade pack version does not match
NET_ERR_PT_LOCKED	1106	PT is locked.
NET_DVR_ERR_ILLEGAL_ VERIFICATION_CODE	1111	Illegal verification code. Change the verification code.
NET_DVR_ERR_LACK_VERIFICATION_ CODE	1112	No verification code. Enter the verification code.
NET_DVR_ERR_FORBIDDEN_IP	1113	The IP address cannot be configured.
NET_DVR_ERR_HTTP_BKN_EXCEED_ ONE	1125	Up to one channel's ANR function can be enabled.
NET_DVR_ERR_FORMATTING_FAILED	1131	Formatting HDD failed.
NET_DVR_ERR_ENCRYPTED_ FORMATTING_FAILED	1132	Formatting encrypted HDD failed.
NET_DVR_ERR_WRONG_PASSWORD	1133	Verifying password of SD card failed. Incorrect password.
NET_ERR_SEARCHING_MODULE	1201	Searching peripherals.
NET_ERR_REGISTERING_MODULE	1202	Registering external module
NET_ERR_GETTING_ZONES	1203	Getting arming region parameter
NET_ERR_GETTING_TRIGGERS	1204	Getting trigger

Error Name	Error Code	Error Description
NET_ERR_ARMED_STATUS	1205	System is in arming status
NET_ERR_PROGRAM_MODE_STATUS	1206	System is in programming mode
NET_ERR_WALK_TEST_MODE_STATUS	1207	System is in pacing measuring mode
NET_ERR_BYPASS_STATUS	1208	Bypass status
NET_ERR_DISABLED_MODULE_ STATUS	1209	Function not enabled
NET_ERR_NOT_SUPPORT_OPERATE_ ZONE	1210	Operation is not supported by arming region
NET_ERR_NOT_SUPPORT_MOD_ MODULE_ADDR	1211	Module address cannot be modified
NET_ERR_UNREGISTERED_MODULE	1212	Module is not registered
NET_ERR_PUBLIC_SUBSYSTEM_ ASSOCIATE_SELF	1213	Public sub system associate with its self
NET_ERR_EXCEEDS_ASSOCIATE_ SUBSYSTEM_NUM	1214	Number of associated public sub system reached upper limit
NET_ERR_BE_ASSOCIATED_BY_ PUBLIC_SUBSYSTEM	1215	Sub system is associated by other public sub system
NET_ERR_ZONE_FAULT_STATUS	1216	Arming region is in failure status
NET_ERR_SAME_EVENT_TYPE	1217	Same event type exists in enable event trigger alarm output and disable event trigger alarm output
NET_ERR_ZONE_ALARM_STATUS	1218	Arming region is in alarm status
NET_ERR_EXPANSION_BUS_SHORT_ CIRCUIT	1219	Extension bus short-circuit
NET_ERR_PWD_CONFLICT	1220	Password conflict, e.g., lock password is identical with duress password
NET_ERR_DETECTOR_GISTERED_BY_ OTHER_ZONE	1221	Detector has been registered by other arming regions
NET_ERR_DETECTOR_GISTERED_BY_ OTHER_PU	1222	Detector has been registered by other hosts
NET_ERR_DETECTOR_DISCONNECT	1223	Detector offline
NET_ERR_CALL_BUSY	1224	Device in call

Error Name	Error Code	Error Description
NET_ERR_FILE_NAME	1357	File name error, empty or invalid
NET_ERR_BROADCAST_BUSY	1358	Device in broadcast
NET_DVR_ERR_LANENUM_EXCEED	1400	Over the number of lanes.
NET_DVR_ERR_PRAREA_EXCEED	1401	Recognition area is too large.
NET_DVR_ERR_LIGHT_PARAM	1402	Signal lamp access parameters error.
NET_DVR_ERR_LANE_LINE_INVALID	1403	Lane configuration error.
NET_DVR_ERR_STOP_LINE_INVALID	1404	Stop line configuration error.
NET_DVR_ERR_LEFTORRIGHT_LINE_ INVALID	1405	Turn left / right boundary configuration error.
NET_DVR_ERR_LANE_NO_REPEAT	1406	Overlay lane number repetition.
NET_DVR_ERR_PRAREA_INVALID	1407	The polygon does not meet the requirements.
NET_DVR_ERR_LIGHT_NUM_EXCEED	1408	Video detection of traffic light signal exceeds the maximum number of.
NET_DVR_ERR_SUBLIGHT_NUM_ INVALID	1409	Video detection of traffic signal lamp lights are not legitimate
NET_DVR_ERR_LIGHT_AREASIZE_ INVALID	1410	The size of the video detection of traffic light input signal lamp is not valid.
NET_DVR_ERR_LIGHT_COLOR_ INVALID	1411	The color of the video detection of traffic light input signal lamp color is not legitimate.
NET_DVR_ERR_LIGHT_DIRECTION_ INVALID	1412	The direction property of the video detection of traffic light input light is not valid.
NET_DVR_ERR_LACK_IOABLITY	1413	Lack of IO ablity.
NET_DVR_ERR_FTP_PORT	1414	FTP port error.
NET_DVR_ERR_FTP_CATALOGUE	1415	FTP catalogue error.
NET_DVR_ERR_FTP_UPLOAD_TYPE	1416	FTP upload type error.
NET_DVR_ERR_FLASH_PARAM_ WRITE	1417	Setting param flash write error.

Error Name	Error Code	Error Description
NET_DVR_ERR_FLASH_PARAM_READ	1418	Getting param flash read error.
NET_DVR_ERR_PICNAME_DELIMITER	1419	Pic name delimiter error.
NET_DVR_ERR_PICNAME_ITEM	1420	Pic name item error.
NET_DVR_ERR_PLATE_RECOGNIZE_TYPE	1421	Plate recognize type error.
NET_DVR_ERR_CAPTURE_TIMES	1422	Capture times error.
NET_DVR_ERR_LOOP_DISTANCE	1423	Loop distance error.
NET_DVR_ERR_LOOP_INPUT_STATUS	1424	Loop input status error.
NET_DVR_ERR_RELATE_IO_CONFLICT	1425	Related IO conflict.
NET_DVR_ERR_INTERVAL_TIME	1426	Interval time error.
NET_DVR_ERR_SIGN_SPEED	1427	Sign speed error.
NET_DVR_ERR_PIC_FLIP	1428	Flip is used.
NET_DVR_ERR_RELATE_LANE_NUMBER	1429	Related lane number error.
NET_DVR_ERR_TRIGGER_MODE	1430	Trigger mode error.
NET_DVR_ERR_DELAY_TIME	1431	Delay time error.
NET_DVR_ERR_EXCEED_RS485_COUNT	1432	Exceed RS485 count.
NET_DVR_ERR_RADAR_TYPE	1433	Radar type error.
NET_DVR_ERR_RADAR_ANGLE	1434	Radar angle error.
NET_DVR_ERR_RADAR_SPEED_VALID_TIME	1435	Radar speed valid time error.
NET_DVR_ERR_RADAR_LINE_CORRECT	1436	Radar line correct error.
NET_DVR_ERR_RADAR_CONST_CORRECT	1437	Radar const correct error.
NET_DVR_ERR_RECORD_PARAM	1438	Record param error.
NET_DVR_ERR_LIGHT_WITHOUT_COLOR_AND_DIRECTION	1439	Light number and other param error.

Error Name	Error Code	Error Description
NET_DVR_ERR_LIGHT_WITHOUT_ DETECTION_REGION	1440	Light number and detection region error.
NET_DVR_ERR_RECOGNIZE_ PROVINCE_PARAM	1441	Plate recognize Province param error.
NET_DVR_ERR_SPEED_TIMEOUT	1442	IO Speed TimeOut Param error.
NET_DVR_ERR_NTP_TIMEZONE	1443	NTP TimeZone Param error.
NET_DVR_ERR_NTP_INTERVAL_TIME	1444	NTP Interval Time error.
NET_DVR_ERR_NETWORK_CARD_ NUM	1445	Network Card Num error.
NET_DVR_ERR_DEFAULT_ROUTE	1446	Default Route error.
NET_DVR_ERR_BONDING_WORK_ MODE	1447	Banding Work Mode error.
NET_DVR_ERR_SLAVE_CARD	1448	Sub-Card error.
NET_DVR_ERR_PRIMARY_CARD	1449	Primary Card error.
NET_DVR_ERR_DHCP_PPOE_WORK	1450	DHCP and PPOE not Meanwhile start.
NET_DVR_ERR_NET_INTERFACE	1451	Net Interface invalid.
NET_DVR_ERR_MTU	1452	Invalid MTU parameters.
NET_DVR_ERR_NETMASK	1453	Netmask address invalid.
NET_DVR_ERR_IP_INVALID	1454	IP address invalid.
NET_DVR_ERR_MULTICAST_IP_ INVALID	1455	Multicast IP address invalid.
NET_DVR_ERR_GATEWAY_INVALID	1456	Gateway address invalid.
NET_DVR_ERR_DNS_INVALID	1457	DNS Param invalid.
NET_DVR_ERR_ALARMHOST_IP_ INVALID	1458	AlarmHost IP invalid.
NET_DVR_ERR_IP_CONFLICT	1459	IP address Conflict.
NET_DVR_ERR_NETWORK_SEGMENT	1460	IP not support Multi Network segment.
NET_DVR_ERR_NETPORT	1461	NetPort error.
NET_DVR_ERR_PPPOE_NOSUPPORT	1462	PPPoE is not supported.

Error Name	Error Code	Error Description
NET_DVR_ERR_DOMAINNAME_ NOSUPPORT	1463	Not Support Domain Name.
NET_DVR_ERR_NO_SPEED	1464	Speed Not Enabled.
NET_DVR_ERR_IOSTATUS_INVALID	1465	IO Status invalid.
NET_DVR_ERR_BURST_INTERVAL_ INVALID	1466	Burst Interval invalid.
NET_DVR_ERR_RESERVE_MODE	1467	Reserve Mode invalid.
NET_DVR_ERR_LANE_NO	1468	Lane No error.
NET_DVR_ERR_COIL_AREA_TYPE	1469	Coil Area Type error.
NET_DVR_ERR_TRIGGER_AREA_ PARAM	1470	Trigger Area Param error.
NET_DVR_ERR_SPEED_LIMIT_PARAM	1471	Speed Limit Param error.
NET_DVR_ERR_LANE_PROTOCOL_ TYPE	1472	Lane Protocol Type error.
NET_DVR_ERR_INTERVAL_TYPE	1473	Capture Interval Type error.
NET_DVR_ERR_INTERVAL_DISTANCE	1474	Capture Interval Distance error.
NET_DVR_ERR_RS485_ASSOCIATE_ DEVTYPE	1475	Rs485 Associate DevType error.
NET_DVR_ERR_RS485_ASSOCIATE_ LANENO	1476	Rs485 Associate LaneNo error.
NET_DVR_ERR_LANENO_ASSOCIATE_ MULTIRS485	1477	LaneNo Associate MulitRs485 error.
NET_DVR_ERR_LIGHT_DETECTION_ REGION	1478	Light Detection Region error.
NET_DVR_ERR_DN2D_NOSUPPORT	1479	UnSupport Capture Frame 2D Noise Reduction.
NET_DVR_ERR_IRISMODE_ NOSUPPORT	1480	UnSupport scene Mode.
NET_DVR_ERR_WB_NOSUPPORT	1481	UnSupport White Balance Mode.
NET_DVR_ERR_IO_EFFECTIVENESS	1482	IO Effectiveness invalid.

Error Name	Error Code	Error Description
NET_DVR_ERR_LIGHTNO_MAX	1483	Access Detector Lights Red / Yellow Overrun.
NET_DVR_ERR_LIGHTNO_CONFLICT	1484	Access Detector Lights Red / Yellow Conflict.
NET_DVR_ERR_CANCEL_LINE	1485	Trigger straight line error.
NET_DVR_ERR_STOP_LINE	1486	Subject line area stop line error.
NET_DVR_ERR_RUSH_REDLIGHT_LINE	1487	Red light trigger lines error.
NET_DVR_ERR_IOOUTNO_MAX	1488	IO out port error.
NET_DVR_ERR_IOOUTNO_AHEADTIME_MAX	1489	IO out ahead time error.
NET_DVR_ERR_IOOUTNO_IOWORKTIME	1490	IO out inwork time error.
NET_DVR_ERR_IOOUTNO_FREQMULTI	1491	IO out frequency multiplication error.
NET_DVR_ERR_IOOUTNO_DUTYRATE	1492	IO out duty rate error.
NET_DVR_ERR_VIDEO_WITH_EXPOSURE	1493	IO out work mode error.
NET_DVR_ERR_PLATE_BRIGHTNESS_WITHOUT_FLASHDET	1494	Plate enable in plate compensate mode on.
NET_DVR_ERR_RECOGNIZE_TYPE_PARAM	1495	Recognize Type error.
NET_DVR_ERR_PALTE_RECOGNIZE_AREA_PARAM	1496	Plate Recognize Area Param error.
NET_DVR_ERR_PORT_CONFLICT	1497	Port Conflict.
NET_DVR_ERR_LOOP_IP	1498	IP cannot be the loopback address.
NET_DVR_ERR_DRIVELINE_SENSITIVE	1499	Driveline sensitivity error.
NET_ERR_VQD_TIME_CONFLICT	1500	The time period conflict.
NET_ERR_VQD_PLAN_NO_EXIST	1501	The diagnostic plan of VQD dese not exist.
NET_ERR_VQD_CHAN_NO_EXIST	1502	The channel dese not exist.

Error Name	Error Code	Error Description
NET_ERR_VQD_CHAN_MAX	1503	The total number of VQD plans exceeds the max limit.
NET_ERR_VQD_TASK_MAX	1504	The total number of VQD tasks exceeds the max limit.
NET_DVR_ERR_EXCEED_MAX_ CAPTURE_TIMES	1600	Capture times exceed 2 in flash mode.
NET_DVR_ERR_REDAR_TYPE_ CONFLICT	1601	Radar type conflict.
NET_DVR_ERR_LICENSE_PLATE_NULL	1602	The license plate is null.
NET_DVR_ERR_WRITE_DATABASE	1603	Failed to write data into the database.
NET_DVR_ERR_LICENSE_EFFECTIVE_ TIME	1604	The effective time of license plate error.
NET_DVR_ERR_PRERECORDED_ STARTTIME_LONG	1605	The pre recorded start time is greater than the number of illegal capture.
NET_DVR_ERR_TRIGGER_RULE_LINE	1606	Trigger rule line error.
NET_DVR_ERR_LEFTRIGHT_ TRIGGERLINE_NOTVERTICAL	1607	Left and right trigger line is not vertical.
NET_DVR_ERR_FLASH_LAMP_MODE	1608	Flash lamp mode error.
NET_DVR_ERR_ILLEGAL_SNAPSHOT_ NUM	1609	Illegal capture number error.
NET_DVR_ERR_ILLEGAL_DETECTION_ TYPE	1610	Illegal detection type error.
NET_DVR_ERR_POSITIVEBACK_ TRIGGERLINE_HIGH	1611	Positive back to trigger line height error.
NET_DVR_ERR_MIXEDMODE_ CAPTYPE_ALLTARGETS	1612	Mixed mode only supports capture type all targets.
NET_DVR_ERR_CARSIGNSPEED_ GREATERTHAN_LIMITSPEED	1613	Car sign speed greater than speed limit value.
NET_DVR_ERR_BIGCARSIGNSPEED_ GREATERTHAN_LIMITSPEED	1614	Big car sign speed limit greater than speed limit value.
NET_DVR_ERR_BIGCARSIGNSPEED_ GREATERTHAN_CARSIGNSPEED	1615	Big car sign speed limit is greater than the car sign speed limit value.

Error Name	Error Code	Error Description
NET_DVR_ERR_BIGCARLIMITSPEED_ GREATERTHAN_CARLIMITSPEED	1616	Big car speed limit value is greater than the car speed limit value.
NET_DVR_ERR_ BIGCARLOWSPEEDLIMIT_ GREATERTHAN_CARLOWSPEEDLIMIT	1617	Big car low speed limit value is greater than the car low speed limit value.
NET_DVR_ERR_CARLIMITSPEED_ GREATERTHAN_EXCEPHIGHSPEED	1618	Car speed limit greater than exception high speed value.
NET_DVR_ERR_BIGCARLIMITSPEED_ GREATERTHAN_EXCEPHIGHSPEED	1619	Big car speed limit greater than exception high speed value.
NET_DVR_ERR_STOPLINE_ MORETHAN_TRIGGERLINE	1620	Stopping more than straight lines trigger lines.
NET_ERR_TIME_OVERLAP	1900	Time periods overlap
NET_ERR_HOLIDAY_PLAN_OVERLAP	1901	Holiday plan overlap
NET_ERR_CARDNO_NOT_SORT	1902	Card number is not sorted
NET_ERR_CARDNO_NOT_EXIST	1903	Card number does not exist
NET_ERR_ILLEGAL_CARDNO	1904	Card number error
NET_ERR_ZONE_ALARM	1905	Arming region is in arming status (parameter cannot be modified)
NET_ERR_ZONE_OPERATION_NOT_ SUPPORT	1906	Arming region does not support the operation
NET_ERR_INTERLOCK_ANTI_ CONFLICT	1907	Interlock and anti-passback configuration conflict
NET_ERR_DEVICE_CARD_FULL	1908	Card full (return after card reached 10,000)
NET_ERR_HOLIDAY_GROUP_ DOWNLOAD	1909	Failed to download holiday group
NET_ERR_LOCAL_CONTROL_OFF	1910	Distributed access controller offline
NET_ERR_LOCAL_CONTROL_DISADD	1911	Distributed access controller is not added
NET_ERR_LOCAL_CONTROL_HASADD	1912	Distributed access controller is added
NET_ERR_LOCAL_CONTROL_ DOORNO_CONFLICT	1913	Conflict with added distributed access controller

Error Name	Error Code	Error Description
NET_ERR_LOCAL_CONTROL_ COMMUNICATION_FAIL	1914	Distributed access controller communication failed
NET_ERR_OPERAND_INEXISTENCE	1915	Operation object does not exist (operation to door, alarm output, alarm input, return when the object is not added)
NET_ERR_LOCAL_CONTROL_OVER_ LIMIT	1916	Distributed access controller exceeded device capability upper limit
NET_ERR_DOOR_OVER_LIMIT	1917	Door exceeded device capability upper limit
NET_ERR_ALARM_OVER_LIMIT	1918	Alarm input and output exceeded device capability upper limit
NET_ERR_LOCAL_CONTROL_ ADDRESS_INCONFORMITY_TYPE	1919	Distributed access controller address does not match with type
NET_ERR_NOT_SUPPORT_ONE_ MORE_CARD	1920	not support one person multi-card
NET_ERR_DELETE_NO_EXISTENCE_ FACE	1921	The face picture does not exist.
NET_ERR_DOOR_SPECIAL_ PASSWORD_REPEAT	1922	Repeated door door duress code, the super password, or the dismiss code.
NET_ERR_AUTH_CODE_REPEAT	1923	Repeated device authentication code
NET_ERR_DEPLOY_EXCEED_MAX	1924	No more devices can be armed.
NET_ERR_NOT_SUPPORT_DEL_FP_ BY_ID	1925	The fingerprint module does not support deleting fingerprint by finger ID.
NET_ERR_TIME_RANGE	1926	Invalid range of the effective period.
NET_ERR_CAPTURE_TIMEOUT	1927	Collection timed out.
NET_ERR_LOW_SCORE	1928	Low quality of collected data.
NET_ERR_OFFLINE_CAPTURING	1929	The device is collecting data offline and cannot respond.
NET_DVR_ERR_OUTDOOR_ COMMUNICATION	1950	Communication exception with outdoor terminal

Error Name	Error Code	Error Description
NET_DVR_ERR_ROOMNO_UNDEFINED	1951	Room number is not set
NET_DVR_ERR_NO_CALLING	1952	No call
NET_DVR_ERR_RINGING	1953	Ringing
NET_DVR_ERR_IS_CALLING_NOW	1954	Call in progress
NET_DVR_ERR_LOCK_PASSWORD_WRONG	1955	Incorrect smart lock password
NET_DVR_ERR_CONTROL_LOCK_FAILURE	1956	Lock control failure
NET_DVR_ERR_CONTROL_LOCK_OVERTIME	1957	Lock control timed out
NET_DVR_ERR_LOCK_DEVICE_BUSY	1958	Smart lock device busy
NET_DVR_ERR_UNOPEN_REMOTE_LOCK_FUNCTION	1959	Remote lock control not enabled
NET_DVR_ERR_FILE_NOT_COMPLETE	2100	Downloaded file is incomplete
NET_DVR_ERR_IPC_EXIST	2101	The camera already exists
NET_DVR_ERR_ADD_IPC	2102	Camera has been added to the channel
NET_DVR_ERR_OUT_OF_RES	2103	Not enough network bandwidth
NET_DVR_ERR_CONFLICT_TO_LOCALIP	2104	IP address of camera conflicts with that of DVR
NET_DVR_ERR_IP_SET	2105	Invalid IP address
NET_DVR_ERR_PORT_SET	2106	Invalid port number
NET_ERR_WAN_NOTSUPPORT	2107	Not in the same LAN, cannot set security question or export GUID file
NET_ERR_MUTEX_FUNCTION	2108	Mutually exclusive function
NET_ERR_QUESTION_CONFIGNUM	2109	Error in number of security question configurations
NET_ERR_FACECHAN_NORESOURCE	2110	All the face VCA channels are occupied.
NET_ERR_DATA_CALLBACK	2111	Data is calling back.

Error Name	Error Code	Error Description
NET_ERR_ATM_VCA_CHAN_IS_ RELATED	2112	The VCA channel is already linked.
NET_ERR_ATM_VCA_CHAN_IS_ OVERLAPED	2113	The VCA channel is already overlayed.
NET_ERR _FACE_CHAN_UNOVERLAP_ EACH_OTHER	2114	The face channels cannot be overlayed.
NET_DVR_SMD_ENCODING_ NORESOURSE	2116	Insufficient SMD encoding resource
NET_DVR_SMD_DECODING_ NORESOURSE	2117	Insufficient SMD decoding resource
NET_DVR_FACELIB_DATA_ PROCESSING	2118	Face picture library data is in processing
NET_DVR_ERR_LARGE_TIME_ DIFFRENCE	2119	There is a great time difference between device and server.
NET_DVR_NO_SUPPORT_WITH_ PLAYBACK	2120	It is not supported. Playback is enabled.
NET_DVR_CHANNEL_NO_SUPPORT_ WITH_SMD	2121	It is not supported. SMD of channel is enabled.
NET_DVR_CHANNEL_NO_SUPPORT_ WITH_FD	2122	It is not supported. Face capture of channel is enabled.
NET_DVR_ILLEGAL_PHONE_NUMBER	2123	Invalid telephone number
NET_DVR_ILLEGAL_CERITIFICATE_ NUMBER	2124	Invalid ID No.
NET_DVR_ERR_CHANNEL_ RESOLUTION_NO_SUPPORT	2125	The channel resolution is not supported
NET_DVR_ERR_CHANNEL_ COMPRESSION_NO_SUPPORT	2126	The channel encoding format is not supported
NET_DVR_ERR_CLUSTER_DEVICE_ TOO_LESS	2127	Deleting is not allowed. The number of devices is not enough
NET_DVR_ERR_CLUSTER_DEL_ DEVICE_CM_PLAYLOAD	2128	Deleting is not allowed. The device is cluster host.
NET_DVR_ERR_CLUSTER_DEVNUM_ OVER_UPPER_LIMIT	2129	No more devices can be added.

Error Name	Error Code	Error Description
NET_DVR_ERR_CLUSTER_DEVICE_ TYPE_INCONFORMITY	2130	Device type mismatched.
NET_DVR_ERR_CLUSTER_DEVICE_ VERSION_INCONFORMITY	2131	Device version mismatched.
NET_DVR_ERR_CLUSTER_IP_ CONFLICT	2132	Cluster system IP address conflict: ipv4 address conflict, invalid ipv6.
NET_DVR_ERR_CLUSTER_IP_INVALID	2133	Invalid cluster system IP address: invalid ipv4, invalid ipv6.
NET_DVR_ERR_CLUSTER_PORT_ CONFLICT	2134	Cluster system port conflict
NET_DVR_ERR_CLUSTER_PORT_ INVALID	2135	Invalid cluster system port
NET_DVR_ERR_CLUSTER_ USERNAEM_OR_PASSWORD_INVALID	2136	Invalid user name or password
NET_DVR_ERR_CLUSTER_DEVICE_ ALREADY_EXIST	2137	The device already exists.
NET_DVR_ERR_CLUSTER_DEVICE_ NOT_EXIST	2138	The device does not exist.
NET_DVR_ERR_CLUSTER_NON_ CLUSTER_MODE	2139	The device working mode is not the cluster mode .
NET_DVR_ERR_CLUSTER_IP_NOT_ SAME_LAN	2140	IP addresses are in different LAN. Building cluster or extending capacity for NVRs in different LAN is not allowed.
NET_DVR_ERR_IDENTITY_KEY	2147	Incorrect interaction password
NET_DVR_MISSING_IDENTITY_KEY	2148	Interaction password is missing
NET_DVR_ERR_CAPTURE_PACKAGE_ FAILED	2141	Capturing packets failed.
NET_DVR_ERR_CAPTURE_PACKAGE_ PROCESSING	2142	Capturing packet.
NET_DVR_ERR_SAFETY_HELMET_NO_ RESOURCE	2143	No enough hard hat detection resource.

Error Name	Error Code	Error Description
NET_DVR_NO_SUPPORT_WITH_ ABSTRACT	2144	This function is not supported. Video synopsis is already enabled.
NET_DVR_INSUFFICIENT_DEEP_ LEARNING_RESOURCES	2146	No more deep learning resources can be added.
NET_DVR_NO_SUPPORT_WITH_ PERSON_DENSITY_DETECT	2149	People gathering density is enabled, it is not supported
NET_DVR_IPC_RESOLUTION_ OVERFLOW	2150	The network camera resolution is too large
NET_DVR_IPC_BITRATE_OVERFLOW	2151	The network camera bitrate is too large
NET_DVR_ERR_INVALID_TASKID	2152	Invalid taskID
NET_DVR_PANEL_MODE_NOT_ CONFIG	2153	The ATM panel mode is not configured.
NET_DVR_NO_HUMAN_ENGINES_ RESOURCE	2154	No enough engine resource
NET_DVR_ERR_TASK_NUMBER_ OVERFLOW	2155	No more task data is allowed
NET_DVR_ERR_COLLISION_TIME_ OVERFLOW	2156	Collision time is over the limit
NET_DVR_ERR_EVENT_NOTSUPPORT	2159	Subscribing alarm/event is not supported.
NET_DVR_IPC_NUM_REACHES_LIMIT	2184	The max. number of network camera channels reached.
NET_DVR_IOT_NUM_REACHES_LIMIT	2185	The max. number of IoT channels reached
NET_DVR_IOT_CHANNEL_DEVICE_ EXIST	2186	Device of the IoT channel already exists.
NET_DVR_IOT_CHANNEL_DEVICE_ NOT_EXIST	2187	Device of the IoT channel does not exist.
NET_DVR_INVALID_IOT_PROTOCOL_ TYPE	2188	Invalid IoT protocol type
NET_DVR_INVALID_EZVIZ_SECRET_ KEY	2189	Invalid verification code

Error Name	Error Code	Error Description
NET_DVR_DUPLICATE_IOT_DEVICE	2190	Duplicated IoT device
NET_DVR_ERROR_NEED_DOUBLE_ VERIFICATION	2206	Double verification is required
NET_DVR_NO_DOUBLE_ VERIFICATION_USER	2207	No double verification user
NET_DVR_TIMESPAN_NUM_OVER_ LIMIT	2209	Max. number of time buckets reached
NET_DVR_CHANNEL_NUM_OVER_ LIMIT	2210	Max. number of channels reached
NET_DVR_NO_SEARCH_ID_ RESOURCE	2211	Insufficient searchID resources
NET_DVR_SWITCH_TIMEDIFF_LESS_ LIMIT	2249	Time difference between power on and off should be less than 10 minutes.
NET_DVR_NO_SUPPORT_DELETE_ STRANGER_LIB	2262	Deleting stranger library is not supported
NET_DVR_NO_SUPPORT_CREATE_ STRANGER_LIB	2263	Creating stranger library is not supported
NET_DVR_SSD_FILE_SYSTEM_ERROR	2266	SSD file system error
NET_DVR_INSUFFICIENT_SSD__FOR_ FPD	2267	Insufficient SSD space for person frequency detection
NET_DVR_SMRDISK_NOT_SUPPORT_ RAID	2269	SMR disk does not support RAID.
NET_DVR_ERR_NOTSUPPORT_ DEICING	3001	Device does not support deicing function under current status.(Deicing function is only supported under the power status of POE+, AC24V, and DC12V).
NET_DVR_ERR_THERMENABLE_ CLOSE	3002	Temperature measurement function is not enabled. (The enable function in NET_DVR_THERMOMETRY_ BASICPARAM is not turned on)
NET_DVR_ERR_PANORAMIC_LIMIT_ OPERATED	3004	Panoramic map and limit cannot be operated at same time

Error Name	Error Code	Error Description
NET_DVR_ERR_SMARTH264_ROI_ OPERATED	3005	SmartH264 and ROI cannot be enabled at the same time.
NET_DVR_ERR_RULENUM_LIMIT	3006	No more rules can be added.
NET_DVR_ERR_LASER_DEICING_ OPERATED	3007	Laser and deicing function cannot be enabled at the same time.
NET_DVR_ERR_OFFDIGITALZOOM_ OR_MINZOOMLIMIT	3008	Please disable the digital zoom function or set the zoom limit to the minimum value. Otherwise, when enabling smoke and fire detection, abnormal event detection, ship detection, defective point correction, temperature measurement, smoke and fire shielding function, this error code will be prompted.
NET_DVR_SYNCHRONIZEFOV_ERROR	3010	Field of view synchronization failed.
NET_DVR_RULE_SHIELDMASK_ CONFLICT_ERROR	3013	The rule region conflicts with the shielded area.
NET_DVR_ERR_NO_SAFETY_HELMET_ REGION	3501	The hard hat detection area is not configured.
NET_DVR_ERR_UNCLOSED_SAFETY_ HELMET	3502	The hard hat detection is enabled.
NET_DVR_UPLOAD_HBDLIBID_ERROR	3504	Incorrect ID of human body picture library (incorrect HBDID or customHBDID)

RTSP Communication Library Related Errors

Error Name	Error Code	Error Description
NET_DVR_RTSP_ERROR_ NOENOUGHPRI	401	Authentication failed: if server returns 401, it will change to this error code
NET_DVR_RTSP_ERROR_ALLOC_ RESOURCE	402	Failed to allocate the resource
NET_DVR_RTSP_ERROR_PARAMETER	403	Parameter error

Error Name	Error Code	Error Description
NET_DVR_RTSP_ERROR_NO_URL	404	The assigned URL does not exist: when the server returns 404, SDK turns to this error code. E.g. the channel is not available, or the channel does not support sub stream
NET_DVR_RTSP_ERROR_FORCE_STOP	406	The user forces to exit midway
NET_DVR_RTSP_GETPORTFAILED	407	RTSP port getting error.
NET_DVR_RTSP_DESCRIBERROR	410	RTSP DECRIBE communicate error
NET_DVR_RTSP_ DESCRIBESENDTIMEOUT	411	Sending "RTSP DECRIBE" is timeout.
NET_DVR_RTSP_DESCRIBESENDERROR	412	Failed to send "RTSP DECRIBE".
NET_DVR_RTSP_ DESCRIBERECVTIMEOUT	413	Receiving "RTSP DECRIBE" is timeout.
NET_DVR_RTSP_ DESCRIBERECVDATALOST	414	Receiving data of "RTSP DECRIBE" error.
NET_DVR_RTSP_DESCRIBERECVERROR	415	Failed to receive "RTSP DECRIBE".
NET_DVR_RTSP_DESCRIBESERVERERR	416	"RTSP DECRIBE, the device returns the error code: 501 (failed to allocate the resource in the device)
NET_DVR_RTSP_SETUPERROR	420	(or 419), RTSP SETUP interaction error. Generally, it is that the address(URL) returned by the device is not accessible, or it is rejected by the server
NET_DVR_RTSP_SETUPSENDTIMEOUT	421	Sending "RTSP SETUP" is timeout.
NET_DVR_RTSP_SETUPSENDERROR	422	Sending "RTSP SETUP" error.
NET_DVR_RTSP_SETUPRECVTIMEOUT	423	Receiving "RTSP SETUP" is timeout.
NET_DVR_RTSP_SETUPRECVDATALOST	424	Receiving data of "RTSP SETUP" error.
NET_DVR_RTSP_SETUPRECVERROR	425	Failed to receive "RTSP SETUP".
NET_DVR_RTSP_OVER_MAX_CHAN	426	"RTSP SETUP" device returns the error that values 401 or 501. It

Error Name	Error Code	Error Description
		exceeds the max connection number.
NET_DVR_RTSP_PLAYERROR	430	RTSP PLAY interaction error.
NET_DVR_RTSP_PLAYSENDTIMEOUT	431	Sending "RTSP PLAY" is timeout.
NET_DVR_RTSP_PLAYSENDERROR	432	Sending "RTSP PLAY" error.
NET_DVR_RTSP_PLAYRECVTIMEOUT	433	Receiving "RTSP PLAY" is timeout.
NET_DVR_RTSP_PLAYRECVDATALOST	434	Receiving data of "RTSP PLAY" error.
NET_DVR_RTSP_PLAYRECVERROR	435	Failed to receive "RTSP PLAY".
NET_DVR_RTSP_PLAYSERVERERR	436	"RTSP PLAY" device returns the error that values 401 or 501.
NET_DVR_RTSP_TEARDOWNERROR	440	RTSP TEARDOWN interaction error.
NET_DVR_RTSP_ TEARDOWNSENDTIMEOUT	441	Sending "RTSP TEARDOWN" is timeout.
NET_DVR_RTSP_ TEARDOWNSENDERROR	442	Sending "RTSP TEARDOWN" error.
NET_DVR_RTSP_ TEARDOWNRECVTIMEOUT	443	Receiving "RTSP TEARDOWN" is timeout.
NET_DVR_RTSP_ TEARDOWNRECVDATALOST	444	Receiving data of "RTSP TEARDOWN" error.
NET_DVR_RTSP_ TEARDOWNRECVERROR	445	Failed to receive "RTSP TEARDOWN".
NET_DVR_RTSP_ TEARDOWNSERVERERR	446	"RTSP TEARDOWN" device returns the error that values 401 or 501.

Software Decoding Library Related Errors

Error Name	Error Code	Error Description
NET_PLAYM4_NOERROR	500	No error.
NET_PLAYM4_PARA_OVER	501	Input parameter is invalid.
NET_PLAYM4_ORDER_ERROR	502	API calling order error.
NET_PLAYM4_TIMER_ERROR	503	Failed to create multimedia clock.

Error Name	Error Code	Error Description
NET_PLAYM4_DEC_VIDEO_ERROR	504	Failed to decode video data.
NET_PLAYM4_DEC_AUDIO_ERROR	505	Failed to decode audio data.
NET_PLAYM4_ALLOC_MEMORY_ ERROR	506	Failed to allocate memory.
NET_PLAYM4_OPEN_FILE_ERROR	507	Failed to open the file.
NET_PLAYM4_CREATE_OBJ_ERROR	508	Failed to create thread event.
NET_PLAYM4_CREATE_DDRAW_ ERROR	509	Failed to create DirectDraw object.
NET_PLAYM4_CREATE_OFFSCREEN_ ERROR	510	Failed to create backstage cache for OFFSCREEN mode.
NET_PLAYM4_BUF_OVER	511	Buffer overflow, failed to input stream.
NET_PLAYM4_CREATE_SOUND_ ERROR	512	Failed to create audio equipment.
NET_PLAYM4_SET_VOLUME_ ERROR	513	Failed to set the volume.
NET_PLAYM4_SUPPORT_FILE_ONLY	514	This API can be called only for file playback mode.
NET_PLAYM4_SUPPORT_STREAM_ ONLY	515	This API can be called only when playing stream.
NET_PLAYM4_SYS_NOT_SUPPORT	516	Not support by the system. Decoder can only work on the system above Pentium 3.
NET_PLAYM4_FILEHEADER_ UNKNOWN	517	There is no file header.
NET_PLAYM4_VERSION_ INCORRECT	518	The version mismatch between decoder and encoder.
NET_PLAYM4_INIT_DECODER_ ERROR	519	Failed to initialize the decoder.
NET_PLAYM4_CHECK_FILE_ERROR	520	The file is too short, or the stream data is unknown.
NET_PLAYM4_INIT_TIMER_ERROR	521	Failed to initialize multimedia clock.
NET_PLAYM4_BLT_ERROR	522	BLT failure.

Error Name	Error Code	Error Description
NET_PLAYM4_UPDATE_ERROR	523	Failed to update overlay surface
NET_PLAYM4_OPEN_FILE_ERROR_ MULTI	524	Failed to open video & audio stream file.
NET_PLAYM4_OPEN_FILE_ERROR_ VIDEO	525	Failed to open video stream file.
NET_PLAYM4_JPEG_COMPRESS_ ERROR	526	JPEG compression error.
NET_PLAYM4_EXTRACT_NOT_ SUPPORT	527	Don't support the version of this file.
NET_PLAYM4_EXTRACT_DATA_ ERROR	528	Extract video data failed.

Container Format Conversion Library Related Errors

Error Name	Error Code	Error Description
NET_CONVERT_ERROR_NOT_ SUPPORT	581	This container format is not supported.

Two Way Audio Library Related Errors

Error Name	Error Code	Error Description
NET_AUDIOINTERCOM_OK	600	No error.
NET_AUDIOINTECOM_ERR_NOTSUPORT	601	Not support.
NET_AUDIOINTECOM_ERR_ALLOC_MEMERY	602	Memory allocation error.
NET_AUDIOINTECOM_ERR_PARAMETER	603	Parameter error.
NET_AUDIOINTECOM_ERR_CALL_ORDER	604	API calling order error.
NET_AUDIOINTECOM_ERR_FIND_DEVICE	605	No audio device
NET_AUDIOINTECOM_ERR_OPEN_DEVICE	606	Failed to open the audio device
NET_AUDIOINTECOM_ERR_NO_CONTEXT	607	Context error.
NET_AUDIOINTECOM_ERR_NO_WAVFILE	608	WAV file error.
NET_AUDIOINTECOM_ERR_INVALID_TYPE	609	The type of WAV parameter is invalid

Error Name	Error Code	Error Description
NET_AUDIOINTECOM_ERR_ENCODE_FAIL	610	Failed to encode data
NET_AUDIOINTECOM_ERR_DECODE_FAIL	611	Failed to decode data
NET_AUDIOINTECOM_ERR_NO_PLAYBACK	612	Failed to play audio
NET_AUDIOINTECOM_ERR_DENOISE_FAIL	613	Failed to denoise
NET_AUDIOINTECOM_ERR_UNKOWN	619	Unknown

QoS Stream Control Library Related Errors

Error Name	Error Code	Error Description
NET_QOS_ERR_SCHEDPARAMS_BAD_ MINIMUM_INTERVAL	678	Incorrect predefined minimum interval.
NET_QOS_ERR_SCHEDPARAMS_BAD_ FRACTION	679	Incorrect predefined score.
NET_QOS_ERR_SCHEDPARAMS_INVALID_ BANDWIDTH	680	Invalid predefined bandwidth.
NET_QOS_ERR_PACKET_TOO_BIG	687	The packet size is too large.
NET_QOS_ERR_PACKET_LENGTH	688	Invalid packet size.
NET_QOS_ERR_PACKET_VERSION	689	Incorrect packet versio information.
NET_QOS_ERR_PACKET_UNKNOW	690	Unknown packet.
NET_QOS_ERR_OUTOFMEM	695	Out of memory.
NET_QOS_ERR_LIB_NOT_INITIALIZED	696	The library is not initialized.
NET_QOS_ERR_SESSION_NOT_FOUND	697	No session found.
NET_QOS_ERR_INVALID_ARGUMENTS	698	Invalid parameters.
NET_QOS_ERROR	699	QoS Stream Control Library error.
NET_QOS_OK	700	No error.

NPQ (Network Protocol Quality) Related Error

Error Name	Error Code	Error Description
NET_ERR_NPQ_PARAM	8001	NPQ library: Incorrect parameter.
NET_ERR_NPQ_SYSTEM	8002	NPQ library: Operating system error.
NET_ERR_NPQ_GENRAL	8003	NPQ library: Internal error.
NET_ERR_NPQ_PRECONDITION	8004	NPQ library: Calling sequence error.
NET_ERR_NPQ_NOTSUPPORT	8005	NPQ library: This function is not supported.
NET_ERR_NPQ_NOTCALLBACK	8100	No data is called back.
NET_ERR_NPQ_LOADLIB	8101	Loading NPQ library failed.
NET_ERR_NPQ_STEAM_CLOSE	8104	The NPQ function of this stream is not enabled.
NET_ERR_NPQ_MAX_LINK	8110	No more streaming channel's NPQ function can be enabled.
NET_ERR_NPQ_STREAM_CFG_ CONFLICT	8111	The configured encoding parameters conflicted.

D.2 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.

Sub Status Code	Error Code	Description
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.
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.
noLinkageResource	0x30001015	Insufficient linkage resources.

Sub Status Code	Error Code	Description
engineAbnormal	0x30002015	Engine exception.
engineInitialization	0x30002016	Initializing the engine.
algorithmLoadingFailed	0x30002017	Loading the model failed.
algorithmDownloadFailed	0x30002018	Downloading the model failed.
algorithmDecryptionFailed	0x30002019	Decrypting the model failed.
unboundChannel	0x30002020	Delete the linked channel to load the new model.
unsupportedResolution	0x30002021	Invalid resolution.
unsupportedSteamType	0x30002022	Invalid stream type.
insufficientDecRes	0x30002023	Insufficient decoding resources.
insufficientEnginePerformance	0x30002024	Insufficient engine performance (The number of channels to be analyzed exceeds the engine's capability).
improperResolution	0x30002025	Improper resolution (The maximum resolution allowed is 4096×4096).
improperPicSize	0x30002026	Improper picture size (The maximum size allowed is 5MB).
URLDownloadFailed	0x30002027	Downloading the picture via the URI failed.
unsupportedImageFormat	0x30002028	Invalid picture format (Only JPG is supported currently).
unsupportedPollingIntervalTime	0x30002029	Invalid polling interval (The interval should be more than 10s).
exceedImagesNumber	0x30002030	The number of pictures exceeds the limit (The platform can apply 1 to 100 picture URIs per time, the maximum number allowed is 100).

Sub Status Code	Error Code	Description
unsupportedMPID	0x30002031	The applied MPID does not exist in the device, so updating this MPID is not supported.
modelPackageNotMatchLabel	0x30002032	The model and the description file mismatch.
modelPackageNotMatchTask	0x30002033	The task and the model type mismatch.
insufficientSpace	0x30002034	Insufficient space (When the number of model packages does not reach the maximum number allowed but their size together exceeds the free space, the model packages cannot be added).
engineUnLoadingModelPackage	0x30002035	Applying the task failed. This engine is not linked to a model package (Canceling the linkage failed, this engine is not linked to a model package).
engineWithModelPackage	0x30002036	Linking the engine to this model package failed. The engine has been linked to another model package. Please cancel their linkage first.
modelPackageDelete	0x30002037	Linking the model package failed. The model package has been deleted.
deleteTaskFailed	0x30002038	Deleting the task failed (It is returned when the user fails to end a task).
modelPackageNumberslimited	0x30002039	Adding the model package failed. The number of model package has reached the maximum number allowed.
modelPackageDeleteFailed	0x30002040	Deleting the model package failed.

Sub Status Code	Error Code	Description
noArmingResource	0x30001016	Insufficient arming resources.
calibrationTimeout	0x30002051	Calibration timed out.
captureTimeout	0x30006000	Data collection timed out.
lowScore	0x30006001	Low quality of collected data.
uploadingFailed	0x30007004	Uploading failed.

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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.
upgradePackageMorethan2GB	0x40001000	Up to 2GB upgrade package is allowed to be uploaded.
IDNotexist	0x40001001	The ID does not exist.
interfaceOperationError	0x40001002	API operation failed.
synchronizationError	0x40001003	Synchronization failed.
synchronizing	0x40001004	Synchronizing.
importError	0x40001005	Importing failed.
importing	0x40001006	Importing.

Sub Status Code	Error Code	Description
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.
unitNotOnline	0x4000101B	The data analysis server is offline.
unitInfoEror	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

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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 main node and sub node must be in the same network segment.
clusterVirIpError	0x40001073	Automatically getting virtual IP address failed. Enter manually.
clusterNodeUnadd	0x40001074	The specified main (sub) 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 main and sub nodes.
addNodeNetFailed	0x40001077	Adding node failed. The network disconnected.
needTwoMgmtNode	0x40001078	Two management nodes are required when adding main and sub nodes.
ipConflict	0x40001079	The virtual IP address and data analysis server's IP address conflicted.
ipUsed	0x4000107A	The virtual IP address has been occupied.
cloudAlalyseOnline	0x4000107B	The cloud analytic server is online.
virIP&mainIPnotSameNetSegment	0x4000107C	The virtual IP address is not in the same network segment with the IP address of main/sub node.
getNodeDispatchInfoFailed	0x4000107D	Getting node scheduler information failed.

Sub Status Code	Error Code	Description
unableModifyManagementNetworkIP	0x4000107E	Editing management network interface failed. The analysis board is in the cluster.
notSpecifyVirtualIP	0x4000107F	Virtual IP address should be specified for main and sub 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.
ArmingSearchTimeError	0x40001089	Invalid search time period.
armingRelationshipReachesLimit	0x4000108A	No more relation can be created.
duplicateAarmingName	0x4000108B	The relation name already exists.
noMoreArmingListAdded	0x4000108C	No more blocklist library can be armed.
noMoreCamerasAdded	0x4000108D	No more camera can be armed.
noMoreArmingListAddedWithCamera	0x4000108E	No more library can be linked to the camera.
noMoreArmingPeriodAdded	0x4000108F	No more time period can be added to the arming schedule.
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.

Sub Status Code	Error Code	Description
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 blocklist library is armed.
licenseExeedLimit	0x400010A3	Dongle limited.
licenseExpired	0x400010A4	Dongle expired.
licenseDisabled	0x400010A5	Unavailable dongle.
licenseNotExist	0x400010A6	The dongle does not exist.
SessionExpired	0x400010A7	Session expired .
beyondConcurrentLimit	0x400010A8	Out of concurrent limit.
stopSync	0x400010A9	Synchronization stopped.

Sub Status Code	Error Code	Description
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 storaged server failed.
storageServiceIPNotExist	0x400010BD	The storage server IP address does not exist.
syncBackupDatabaseFailed	0x400010BE	Synchronizing sub database failed. Try again.
syncBackupNTPTimeFailed	0x400010BF	Synchronizing NTP time of sub server failed.
clusterNotSelectLoopbackAddress	0x400010C0	Loopbacl address is not supported by the main or sub cluster.

Sub Status Code	Error Code	Description
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 blocklists.
blackListQueryExported	0x400010C8	The matched blocklists are exported.
blackListQueryStopExporting	0x400010C9	Exporting matched blocklists is stopped.
blackListAlarmQueryExporting	0x400010CA	Exporting matched blocklist alarms.
blackListAlarmQueryExported	0x400010CB	The matched blocklists alarms are exported.
blackListAlarmQueryStopExporting	0x400010CC	Exporting matched blocklist 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.
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.

Sub Status Code	Error Code	Description
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.
bigDataServerConnect Failed	0x400010D8	Connecting to big data server failed.
microVideoCloudRequ estInfoBuildFailed	0x400010D9	Adding response information of micro video cloud failed.
microVideoCloudRespo nseInfoBuildFailed	0x400010DA	Parsing response information of micro video cloud failed.
transcodingServerRequ estInfoBuildFailed	0x400010DB	Adding response information of transcoding server failed.
transcodingServerResp onseInfoParseFailed	0x400010DC	Parsing response information of transcoding server failed.
transcodingServerOffli ne	0x400010DD	Transcoding server is offline.
microVideoCloudOfflin e	0x400010DE	Micro video cloud is offline.
UPSServerOffline	0x400010DF	UPS monitor server is offline.
statisticReportRequestI nfoBuildFailed	0x400010E0	Adding response information of statistics report failed.
statisticReportRespons eInfoParseFailed	0x400010E1	Parsing response information of statistics report failed.
DisplayConfigInfoBuild Failed	0x400010E2	Adding display configuration information failed.
DisplayConfigInfoParse Failed	0x400010E3	Parsing display configuration information failed.
DisplayConfigInfoSaveF ailed	0x400010E4	Saving display configuration information failed.
notSupportDisplayConf igType	0x400010E5	The display configuration type is not supported.
passError	0x400010E7	Incorrect password.

Sub Status Code	Error Code	Description
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.
forwardingServerReturnFailed	0x400010FA	No response is returned by forwarding service.
storageServerReturnFailed	0x400010FB	No response is returned by storage service.

Sub Status Code	Error Code	Description
cloudAnalysisServerReturnFailed	0x400010FC	No response is returned by cloud analytic service.
modelEmpty	0x400010FD	No model is obtained.
mainAndBackupNodeCannotModifyManagementNetworkInterfaceIP	0x400010FE	Editing the management interface IP address of main node and backup node is not allowed.
IDTooLong	0x400010FF	The ID is too long.
pictureCheckFailed	0x40001100	Detecting picture failed.
pictureModelingFailed	0x40001101	Modeling picture failed.
setCloudAnalsisDefaultProvinceFailed	0x40001102	Setting default province of cloud analytic service failed.
InspectionAreasNumberExceedLimit	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.
bigDataServerRequestInfoBuildFail	0x40001108	Creating request message of big data service failed.
analysiTimedOut	0x40001109	Analysis time out.
high-performanceModeDisabled.	0x4000110A	Please enable high-performance mode.
configuringUPSMonitoringServerTimedOut	0x4000110B	Configuring the UPS monitoring server time out. Check IP address.
cloudAnalysisRequestInformationBuildFailed	0x4000110C	Creating request message of cloud analytic service failed.
cloudAnalysisResponseInformationParseFailed	0x4000110D	Parsing response message of cloud analytic service failed.
allCloudAnalysisInterfaceFailed	0x4000110E	Calling API for cloud analytic service failed.
cloudAnalysisModelCompareFailed	0x4000110F	Model comparison of cloud analytic service failed.

Sub Status Code	Error Code	Description
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 main 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.
controlCenterIDDoesNotExist	0x40001120	The control center ID does not exist.
regionIDDoesNotExist	0x40001121	The area ID does not exist.
licensePlateFormatError	0x40001122	Invalid license plate format.

Sub Status Code	Error Code	Description
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 main node and backup node failed. Check the node status.
theSearchIdDoesNotExist	0x40001133	The search ID does not exist.
theSynchronizationIdDoesNotExist	0x40001134	The synchronization ID does not exist.
theUserIdDoesNotExist	0x40001136	The user ID does not exist.

Sub Status Code	Error Code	Description
theIndexCodeDoesNot Exist	0x40001138	The index code does not exist.
theControlCenterIdDoe sNotExist	0x40001139	The control center ID does not exist.
theAreaIdDoesNotExist	0x4000113A	The area ID does not exist.
theArmingLinkageIdDo esNotExist	0x4000113C	The arming relationship ID does not exist.
theListLibraryIdDoesNo tExist	0x4000113D	The list library ID does not exist.
invalidCityCode	0x4000113E	Invalid city code.
synchronizingThePass wordOfSpareServerFail ed	0x4000113F	Synchronizing backup system password failed.
editingStreamingTypeIs NotSupported	0x40001140	Editing streaming type is not supported.
switchingScheduledTas kToTemporaryTaskIsNo tSupported	0x40001141	Switching scheduled task to temporary task is not supported.
switchingTemporaryTas kToScheduledTaskIsNot Supported	0x40001142	Switching temporary task to scheduled task is not supported.
theTaskIsNotDispatche dOrItIsUpdating	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.
continuousScheduleWi thSameAlgorithmType ShouldBeMerged	0x40001146	The continuous schedule periods with same algorithm type should be merged.
invalidStreamingTimeR ange	0x40001147	Invalid streaming time period.
invalidListLibraryType	0x40001148	Invalid list library type.

Sub Status Code	Error Code	Description
theNumberOfMatched ResultsShouldBeLarger Than0	0x40001149	The number of search results should be larger than 0.
invalidValueRangeOfSi milarity	0x4000114A	Invalid similarity range.
invalidSortingType	0x4000114B	Invalid sorting type.
noMoreListLibraryCanB eLinkedToTheDevice	0x4000114C	No more lists can be added to one device.
InvalidRecipientAddres sFormat	0x4000114D	Invalid address format of result receiver.
creatingClusterFailedT heDongleIsNotPlugged In	0x4000114E	Insert the dongle before creating cluster.
theURLIsTooLong	0x4000114F	No schedule configured for the task.
noScheduleIsConfigure dForTheTask	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.
AuthorizeServiceRespo nseError	0x40001156	Authorization service response exception.
incorrectParameter	0x40001157	Authorization service parameters error.
operationFailed	0x40001158	Operating authorization service error.
noAnalysisResourceOr NoDataInTheListLibrary	0x40001159	No cloud analytic resources or no data in the list library.
calculationException	0x4000115A	Calculation exception.
allocatingList	0x4000115B	Allocating list.
thisOperationIsNotSup portedByTheCloudAnal ytics	0x4000115C	This operation is not supported by the cloud analytic serice.

Sub Status Code	Error Code	Description
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.
NonprimaryNodeIsProhibitedFromSlcingData	0x4000116D	Slicing is not allowed by the backup node.
NoReadyNodeToClusterServers	0x4000116E	Creating the cluster failed. No ready node.

Sub Status Code	Error Code	Description
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 frequently appeared person 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.
commandAndDispatchServiceError	0x4000117C	Scheduling service of cloud analytic serice error.
engineModuleError	0x4000117D	Engine module of cloud analytic serice error.

Sub Status Code	Error Code	Description
streamingServiceError	0x4000117E	Streaming component of cloud analytic serice error.
faceAnalysisModuleErr or	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	Frequently appeared person alarm is already armed for blocklist 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 frequently appeared person alarm failed.
invalidSearchConfition	0x40001189	Invalid result.
theTaskIsNotComplete d	0x4000118B	The task is not completed.
resourceOverRemainLi mit	0x4000118C	No more resource can be pre-allocated.
frequentlyAppearedPe rsonAlarmIs AlreadyConfiguredForT heCameraDisarmFirstA ndTryAgain	0x4000118D	The frequently appeared person alarm of this camera is configured. Delete the arming information and try again.

Sub Status Code	Error Code	Description
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.
noMoreSleepOnDutyRulesAdded	0x400015AE	Maximum number of sleeping on duty rules reached.
polygonNotAllowCrossing	0x400015C2	Polygons are not allowed to cross.

Sub Status Code	Error Code	Description
configureRuleBeforeAdvanceParam	0x400015F8	Advanced parameters fail to be configured as no rule is configured, please configure rule information first.
behaviorCanNotPackToPic	0x40001603	The behavior model cannot be packaged as a picture algorithm.
noCluster	0x40001608	No cluster created.
NotAssociatedWithOwnChannel	0x400019C1	Current channel is not linked.
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.
NonOperationalStandbyMachine	0x400019F0	Non-operational hot spare.
MaximumNumberOfDevices	0x400019F1	The maximum number of devices reached.
StandbyMmachineCannotBeDeleted	0x400019F2	The hot spare cannot be deleted.
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.

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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
NotSupportWithVideoTask	0x400020F3	This function is not supported.
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.

Sub Status Code	Error Code	Description
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.
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 main-sub relationship has taken effect, the sub 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.

Sub Status Code	Error Code	Description
importCfgFilePassword Err	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.
audioFileHasExisted	0x4000803f	The audio file already exists.
subscribeTypeErr	0x4000a016	This metadata type is not supported to be subscribed.
EISError	0x4000A01C	Electronic image stabilization failed. The smart event function is enabled.
jpegPicWithAppendDataError	0x4000A01D	Capturing the thermal graphic failed. Check if the temperature measurement parameters (emissivity, distance, reflective temperature) are configured correctly.
startAppFail	/	Starting running application program failed.
yuvconflict	/	The raw video stream conflicted.
overMaxAppNum	/	No more application program can be uploaded.
noFlash	/	Insufficient flash.
platMismatch	/	The platform mismatches.
emptyEventName	0x400015E0	Event name is empty.
sameEventName	0x400015E1	A same event name already exists.
emptyEventType	0x400015E2	Event type is required.
sameEventType	0x400015E3	A same event type already exists.
maxEventNameReached	0x400015E4	Maximum of events reached.

Sub Status Code	Error Code	Description
hotSpareNotAllowedExternalStorage	0x400015FC	External storage is not allowed when hot spare is enabled.
sameCustomProtocolName	0x400015FD	A same protocol name already exists.
maxPTZTriggerChannelReached	0x400015FE	Maximum of channels linked with PTZ reached.
POSCanotAddHolidayPlan	0x400015FF	No POS events during holidays.
eventTypeIsTooLong	0x40001600	Event type is too long.
eventNameIsTooLong	0x40001601	Event name is too long.
PerimeterEnginesNoResource	0x40001602	No more perimeter engines.
invalidProvinceCode	0x40001607	Invalid province code.

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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.

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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.
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.
humanMisInfoFilterEnabledChaNumError	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

Sub Status Code	Error Code	Description
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	Abnormal event detection rule parameters error.
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).

Sub Status Code	Error Code	Description
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.
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.

Sub Status Code	Error Code	Description
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.
holidayNameContainChineseOrSpecialChar	0x60001080	No Chinese and special characters allowed in holiday name.
genderValueError	0x60001081	Invalid gender.
certificateTypeValueError	0x60001082	Invalid identification type.
personInfoExtendValueIsTooLong	0x60001083	The length of customized tags exceeds limit.
personInfoExtendValueContainsInvalidChar	0x60001084	Invalid characters are not allowed in customized tags of the face picture library.
excelHeaderError	0x60001085	Excel header error.
intelligentTrafficMutexWithHighFrames	0x60008014	Please disable all functions of traffic incident detection, violation enforcement, and traffic data collection, or adjust the video frame rate to that lower than 50 fps.
intelligentTrafficMutexWithHighFramesEx	0x60008018	Please disable all functions of traffic incident detection, violation enforcement, traffic data collection, and vehicle detection, or adjust the video frame rate to that lower than 50 fps.

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