Device Network SDK (Traffic)

Developer Guide

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Chapter 1 Overview

1.1 Introduction

The traffic application integrated by device network SDK contains traffic capture, recording, violation enforcement, license plate recognition (or called ANPR, Automatic Number Plate Recognition), traffic data statistics, and so on.

1.2 Update History

Summary of Changes in Version 6.1.4.15_Mar., 2020

- Extended traffic channel capability message <u>XML_TrafficChannelCap</u> (related API: <u>NET_DVR_STDXMLConfig</u>; related URI: <u>/ISAPI/Traffic/channels/<ID>/capabilities</u>): added one node <isSupportFiltration> (whether it supports filtering duplicated license plate).
- Added URI to be transmitted by <u>NET_DVR_STDXMLConfig</u> to get or set parameters of filtering duplicated license plate: GET or PUT <u>/ISAPI/Traffic/channels/<ID>/licensePlate/filtration?</u> format=ison.
- Extended capability message <u>XML_Cap_VehicleDetectCfg</u> and configuration message <u>XML_VehicleDetectCfg</u> of vehicle detection (related API: <u>NET_DVR_STDXMLConfig</u>; related URIs: <u>/ISAPI/Traffic/channels/<ID>/vehicleDetect/capabilities</u> and <u>/ISAPI/Traffic/channels/ <ID>/vehicleDetect</u>):
 - added two nodes <nation> (nation region) and <CRIndex> (country/region).
- 4. Extended capability message <u>XML_Cap_HVTVehicleDetectCfg</u> and configuration message <u>XML_HVTVehicleDetectCfg</u> of mixed traffic detection (related API: <u>NET_DVR_STDXMLConfig</u>; related URIs: <u>/ISAPI/Traffic/channels/<ID>/HVTVehicleDetects/capabilities</u> and <u>/ISAPI/Traffic/channels/<ID>/HVTVehicleDetects</u>): added one node <CRIndex> (country/region No.).

Summary of Changes in Version 6.1.3.25 Dec., 2019

- 1. Extended the structure about traffic incident information <u>NET_DVR_AID_INFO</u>: added a member **dwAIDTypeEx** (extended traffic incident types) by four bytes.
- Extended traffic alarm and event types in <u>Traffic Alarm or Event Types</u>: added three event types: Real-Time Passing Vehicle Data (command: 0x3081-COMM_ALARM_TPS_REAL_TIME), Passing Vehicle Statistics (command: 0x3082-COMM_ALARM_TPS_STATISTICS), and Instant Traffic Data (command: 0x4993-COMM_VCA_ALARM).

Summary of Changes in Version 6.1.3.25_Dec., 2019

1. Added two traffic event types to the intelligent alarms or events (0x4993-"COMM VCA ALARM"), i.e., dock station status alarm (eventType:

- "dockStationstatus"; event details: <u>JSON_EventNotificationAlert_DockStationStatusMsg</u>) and exception prompt alarm of dock station (eventType: "dockStationExceptionPrompt"; event details: <u>JSON_EventNotificationAlert_DockStationExceptionAlarmMsg</u>).
- 2. Added URIs to be transmitted by <u>NET_DVR_STDXMLConfig</u> to open storage bin of dock station and set the collection priority of bin, refer to <u>Storage Bin</u> for details.
- 3. Extended device capability (<u>XML_Cap_DeviceInfo</u>) and parameters (<u>XML_DeviceInfo</u>) (related API: <u>NET_DVR_STDXMLConfig</u>; related URIs: <u>/ISAPI/System/deviceInfo/capabilities</u> and <u>/ISAPI/System/deviceInfo</u>) to add platform access function of dock station: added a node, i.e., <DockStation> (dock station configuration).
- 4. Added URIs to be transmitted by <u>NET_DVR_STDXMLConfig</u> to configure basic parameters, manage persons and body cameras of dock station, and set data uploading schedule (from dock station to platform), refer to <u>Basic Configuration</u>, <u>Person Management</u>, <u>Body Camera Management</u>, and <u>Data Uploading Schedule</u> for details.
- Extended the access configuration capability (<u>XML_Cap_CloudStorage</u>) and parameters (<u>XML_CloudStorage</u>) of cloud storage (related API: <u>NET_DVR_STDXMLConfig</u> ; related URIs: <u>/ ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID>/capabilities</u> and <u>/ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID></u>): added a node <bucketName> (bucket name of cloud storage).
- Extended the condition of cloud storage test (<u>XML_CloudStorageTestDescription</u> , related API: <u>NET_DVR_STDXMLConfig</u> ; related URI: <u>/ISAPI/ContentMgmt/channels/<ID>/cloudStorage/test</u>): added a node <bucketName> (bucket name of cloud storage).

Summary of Changes in Version 6.1.3.10_Nov., 2019

- Extended picture composition configuration capability XML_Cap_ImageMerge and picture composition configuration XML_ImageMerge Channels (related API:
 <u>NET_DVR_STDXMLConfig</u>; related URIs: /ISAPI/Traffic/channels/<ID>/imageMerge/capabilities and /ISAPI/Traffic/channels/<ID>/imageMerge):
 added one sub node <isAddTrackingInfo> (whether to overlay pattern information on alarm picture) to the two nodes <PictureAddIntInfo> and <ProspectmapInfo>.
- Extended license plate information structure <u>NET_DVR_PLATE_INFO</u>: added two members byCountry (country index) and wCRIndex (country or region index) via three bytes.
- Extended structures of traffic law enforcement alarm <u>NET_DVR_TFS_ALARM</u> and license plate recognition result <u>NET_ITS_PLATE_RESULT</u>: added a member struPlateInfo (license plate information).

Summary of Changes in Version 6.1.0.25_Aug., 2019

Extended intelligent traffic capability message <u>XML_ITCCap</u> (related URL: <u>/ISAPI/ITC/capability</u>; related API: <u>NET_DVR_STDXMLConfig</u>):

added a node <isSupportVehicleDetection> (whether to support vehicle detection).

2. Extended structure about the configuration parameters of ANPR arming schedule NET_DVR_GUARD_CFG (related API: NET_DVR_SET_EVECONFIG with "NET_DVR_SET_GUARDCFG" (command No.: 3135)): added a member byDirection (triggered direction) by one byte.

Summary of Changes in Version 6.0.2.30 03/2019

Extended blocklist and allowlist ANPR alarm structure <u>NET_DVR_VEHICLE_CONTROL_ALARM</u> via one reserved byte:

added one parameter **byPicTransType** (picture transmission method).

Summary of Changes in Version 6.0.2.15 (Windows)_Mar., 2019

Extended traffic incident alarm details structure (<u>NET_DVR_AID_ALARM_V41</u>) by one reserved byte:

added a member byTargetType (detection target type).

Chapter 2 Typical Applications

2.1 Traffic Capture and Image

Traffic Capture

Manual capture traffic picture	NET_DVR_ManualSnap
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Traffic Picture Composition

Get configuration capability of traffic picture composition	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/</u> <u>channels/<id>/imageMerge/capabilities</id></u> with GET method.
	The capability is returned in the message <u>XML_Cap_ImageMerge</u> by IpOutputParam.
Get parameters of traffic picture composition	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/channels/<id>/imageMerge</id></u> with GET method. The parameters is returned in the message XML_ImageMerge_Channels by IpOutputParam.
Set parameters of traffic picture composition	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/channels/<id>/imageMerge</id></u> with PUT method and set IpInputParam to <u>XML_ImageMerge_Channels</u> .

2.2 Parking Detection

The parking space detection is to detect the parking space status in the parking lot. And you can search for the status information of all parking spaces, and the status changed events can be uploaded.

Table 2-1 Parking Space Detection

Search for parking space	Call NET_DVR_STDXMLConfig to transmit /ISAPI/Parking/
detection events	<i>packingSpaceRecognition/search?format=json</i> by POST method
	and set IpInputParam to
	JSON_ParkingSpaceRecognitionSearchDescription .
	The search results are returned in the message
	JSON_ParkingSpaceRecognitionSearchResult by
	IpOutputParam.

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 Traffic Alarm or Event Types

The traffic-related alarm or event types include license plate recognition alarm, blocklist and allowlist alarm of license plate recognition, real-time passing vehicle data uploading, passing vehicle statistics uploading, violation enforcement alarm, and so on. Here shows the command of each event type and the corresponding event details.

lCommand	Description	Details
COMM_ITS_PLATE_RESULT (0x3050)	License plate recognition alarm, refer to <i>Configure ANPR</i>	NET_ITS_PLATE_RESULT
COMM_UPLOAD_PLATE_ RESULT (0x2800)	Alarm for alarm configurations.	
COMM_VEHICLE_CONTROL_ ALARM (0x3059)	Blocklist and allowlist alarm of license plate recognition, refer to <i>Configure Blocklist and Allowlist ANPR Alarm</i> for alarm configurations.	NET_DVR_VEHICLE_CONTROL_ ALARM
COMM_ALARM_TPS_REAL_ TIME (0x3081)	Real-time passing vehicle data which can be received in arming mode or in listening mode, refer to <i>Receive Alarm/</i>	NET_DVR_TPS_REAL_TIME_IN FO

lCommand	Description	Details
	Event in Arming Mode or Receive Alarm/Event in Listening Mode for details.	
COMM_ALARM_TPS_ STATISTICS (0x3082)	Passing vehicle statistics which can be received in arming mode or in listening mode, refer to <i>Receive Alarm/Event in Arming Mode</i> or <i>Receive Alarm/Event in Listening Mode</i> for details.	NET_DVR_TPS_STATISTICS_INF O
COMM_ALARM_TFS (0x1113)	Violation enforcement alarm, which can be received in arming or listening mode, refer to <i>Receive Alarm/Event in Arming Mode</i> and <i>Receive Alarm/Event in Listening Mode</i> for details.	NET_DVR_TFS_ALARM
COMM_VCA_ALARM (0x4993)	Instant traffic data uploading alarm.	JSON_EventNotificationAlert_I nstantTrafficDataMsg
	Dock station status alarm, which can be received in arming or listening mode.	JSON_EventNotificationAlert_ DockStationStatusMsg
	Dock station exception prompt alarm, which can be received in arming or listening mode.	JSON_EventNotificationAlert_ DockStationExceptionAlarmMs g
	Traffic incident alarm, which can be received in arming or listening mode.	XML_EventNotificationAlert_T rafficIncidentAlarmMsg
COMM_ALARM_AID (0x1110)	Traffic incident alarm	NET_DVR_AID_PARAM
COMM_ALARM_AID_V41 (0x1115)	Extended traffic incident alarm	NET_DVR_AID_ALARM_V41
COMM_ALARM_TPS_V41 (0x1114)	Traffic data collection alarm	NET_DVR_TPS_ALARM_V41
COMM_ISAPI_ALARM (0x60090)	Parking space detection event, which can be received in arming or listening mode.	JSON_EventNotificationAlert_ PackingSpaceRecognition

2.3.2 Configure ANPR Alarm

If the vehicle appears in the monitoring image during a certain time period, and the recognition parameters are configured, the ANPR camera will capture the vehicle picture automatically. Then the camera analyzes the license plate and the ANPR alarm will be triggered.

Before You Start

- Make sure you have called **<u>NET_DVR_Init</u>** to initialize the integration environment.
- Make sure you have called **NET_DVR_Login_V40** to log in to the device.

Steps

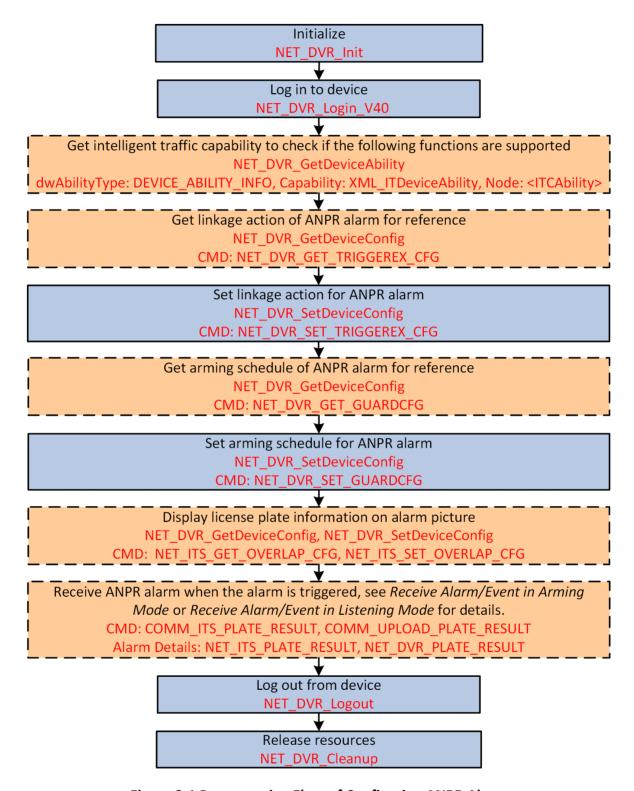


Figure 2-1 Programming Flow of Configuring ANPR Alarm

Optional: Call <u>NET_DVR_GetDeviceAbility</u>, set the capability type (dwAbilityType) to
 "DEVICE_ABILITY_INFO" (0x011), and set the input parameter pointer (pInbuf) to
 <u>XML_Desc_ITDeviceAbility</u> message for getting intelligent traffic capability to check if the
 following functions are supported.

You can also call <u>NET_DVR_STDXMLConfig</u> to transmit the request URI: GET <u>/ISAPI/ITC/</u> <u>capability</u> to get the intelligent traffic capability and check whether the ANPR function is supported.

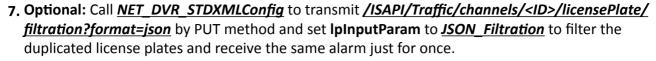
The capability is returned in the message <u>XML_ITCCap</u> by **IpOutBuffer** of **IpOutputParam**. The intelligent traffic capability is returned in the message of <u>XML_ITDeviceAbility</u>, and the related node is <**ITCAbility**>.

- 2. Optional: Call <u>NET_DVR_GetDeviceConfig</u> with "NET_DVR_GET_TRIGGEREX_CFG" (command No.: 5074) and set the input buffer (**IpInBuffer**) to the structure <u>NET_DVR_TRIGGER_COND</u> for getting the configured or existing triggering mode of ANPR alarm for reference.
 - The triggering mode parameters are returned by the output buffer (**IpOutBuffer**) in the structure of **NET ITC TRIGGERCFG** .
- 3. Call <u>NET_DVR_SetDeviceConfig</u> with "NET_DVR_SET_TRIGGEREX_CFG" (command No.: 5075), set the input buffer (**IpInBuffer**) to the structure <u>NET_DVR_TRIGGER_COND</u>, and set the input parameter (**IpInParamBuffer**) to the structure <u>NET_ITC_TRIGGERCFG</u> for setting the triggering mode.
- **4. Optional:** Call <u>NET_DVR_GetDeviceConfig</u> with "NET_DVR_GET_GUARDCFG" (command No.: 3134) and set the input buffer (**IpInBuffer**) to the structure <u>NET_DVR_GUARD_COND</u> for getting the configured or existing arming schedule of ANPR alarm for reference.
 - The arming schedule parameters are returned by the output buffer (**IpOutBuffer**) in the structure of **NET_DVR_GUARD_CFG** .
- 5. Call <u>NET_DVR_SetDeviceConfig</u> with "NET_DVR_SET_GUARDCFG" (command No.: 3135), set the input buffer (IpInBuffer) to the structure <u>NET_DVR_GUARD_COND</u>, and set the input parameter (IpInParamBuffer) to the structure <u>NET_DVR_GUARD_CFG</u> for setting arming schedule.



You can also configure the triggering mode and arming schedule for ANPR alarm by logging in to device via web browser.

- **6. Optional:** Configure parameters to display license plate information on alarm picture.
 - 1) Optional: Call <u>NET_DVR_GetDeviceConfig</u> with "NET_ITS_GET_OVERLAP_CFG_V50" (command No.: 5055) and set the input buffer (**IpInBuffer**) to the structure <u>NET_ITS_OVERLAPCFG_COND</u> for getting the configured or existing overlay parameters for reference.
 - The overlay parameters are returned by the output buffer (**IpOutBuffer**) in the structure of **NET ITS OVERLAP CFG V50**.
 - 2) Call <u>NET_DVR_SetDeviceConfig</u> with "NET_ITS_SET_OVERLAP_CFG_V50" (command No.: 5056), set the input buffer (**IpInBuffer**) to the structure <u>NET_ITS_OVERLAP_CFG_COND</u>, and set the input parameter (**IpInParamBuffer**) to the structure <u>NET_ITS_OVERLAP_CFG_V50</u> for setting the parameters to display license plate information on alarm picture.





To check whether the device supports filtering duplicated license plates, you can call **NET_DVR_STDXMLConfig** to transmit **/ISAPI/Traffic/channels/<ID>/capabilities** by GET method. The capability will be returned in the message **JSON_Filtration** by **IpOutputParam**. If it supports, the node **<isSupportFiltration**> will be in the capability message and its value is "true".

8. Optional: Receive ANPR alarm in arming mode (see <u>Receive Alarm/Event in Arming Mode</u>) or listening mode (see <u>Receive Alarm/Event in Listening Mode</u>) when alarm is triggered.



The command (**ICommand**) to receive ANPR alarms should be set to "COMM_ITS_PLATE_RESULT" (command No.: 0x3050) or "COMM_UPLOAD_PLATE_RESULT" (command No.: 0x2800) in the alarm callback function **MSGCallBack**.

For alarm details, refer to <u>XML_EventNotificationAlert_ANPR</u> returned in the field **pXmlBuf** of <u>NET_DVR_PLATE_INFO</u> in the structure <u>NET_ITS_PLATE_RESULT</u> or <u>NET_DVR_PLATE_RESULT</u>.

What to do next

Call **NET DVR Logout** and **NET DVR Cleanup** to log out from device and release resources.

2.3.3 Configure Blocklist and Allowlist ANPR Alarm

After capturing the vehicle picture, you can control the entry of vehicles according to the ANPR results after configuring the alarm of license plate in blocklist or allowlist. The vehicles in blocklist are not allowed to enter, while the vehicles in the allowlist are allowed to enter.

Before You Start

- Make sure you have called <u>NET_DVR_Init</u> to initialize the integration environment.
- Make sure you have called **NET_DVR_Login_V40** to log in to the device.

Steps

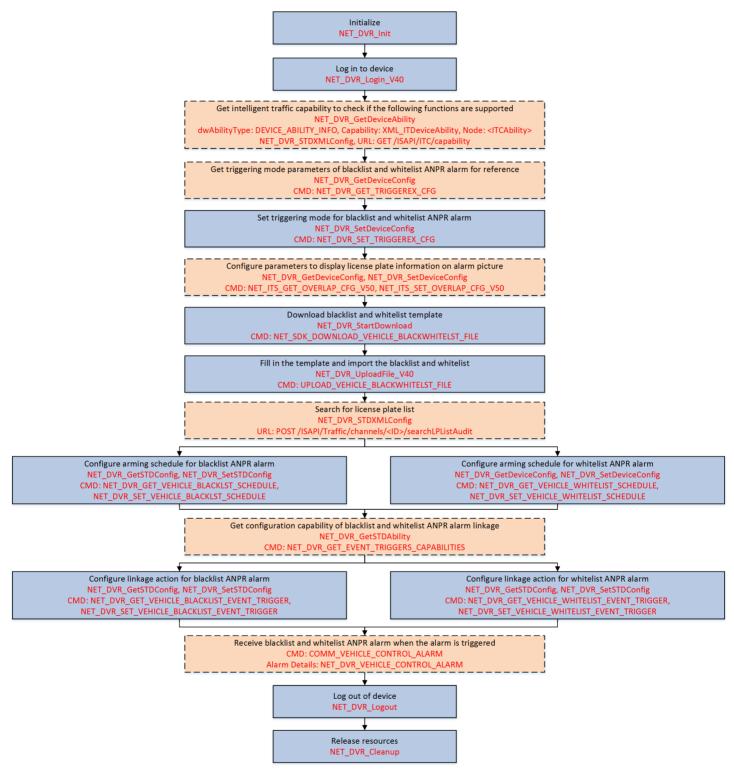


Figure 2-2 Programming Flow of Configuring Blocklist and Allowlist ANPR Alarm

- 1. Optional: Get intelligent traffic capability to check if the following functions are supported.
 - Call <u>NET_DVR_GetDeviceAbility</u>, set the capability type (dwAbilityType) to
 "DEVICE_ABILITY_INFO" (0x011), and set the input parameter pointer (pInbuf) to the message XML_Desc_ITDeviceAbility.
 - The intelligent traffic capability is returned in the message of <u>XML_ITDeviceAbility</u>, and the related node is <ITCAbility>.
 - Call <u>NET_DVR_STDXMLConfig</u> to pass through the request URL: GET <u>/ISAPI/ITC/capability</u>.
 The intelligent traffic capability is returned in the message <u>XML_ITCCap</u> by IpOutBuffer of IpOutputParam.
- 2. Optional: Call <u>NET_DVR_GetDeviceConfig</u> with "NET_DVR_GET_TRIGGEREX_CFG" (command No.: 5074) and set the input buffer (**IpInBuffer**) to the structure <u>NET_DVR_TRIGGER_COND</u> for getting the configured or existing triggering mode of blocklist and allowlist ANPR alarm for reference.
 - The triggering mode parameters are returned by the output buffer (**IpOutBuffer**) in the structure of **NET_ITC_TRIGGERCFG**.
- 3. Call <u>NET_DVR_SetDeviceConfig</u> with "NET_DVR_SET_TRIGGEREX_CFG" (command No.: 5075), set the input buffer (**IpInBuffer**) to the structure <u>NET_DVR_TRIGGER_COND</u>, and set the input parameter (**IpInParamBuffer**) to the structure <u>NET_ITC_TRIGGERCFG</u> for setting the triggering mode.
- **4. Optional:** Configure parameters to display license plate information on alarm picture.
 - 1) Optional: Call <u>NET_DVR_GetDeviceConfig</u> with "NET_ITS_GET_OVERLAP_CFG_V50" (command No.: 5055) and set the input buffer (**IpInBuffer**) to the structure <u>NET_ITS_OVERLAPCFG_COND</u> for getting the configured or existing overlay parameters for reference.
 - The overlay parameters are returned by the output buffer (**IpOutBuffer**) in the structure of **NET_ITS_OVERLAP_CFG_V50** .
 - 2) Call <u>NET_DVR_SetDeviceConfig</u> with "NET_ITS_SET_OVERLAP_CFG_V50" (command No.: 5056), set the input buffer (**IpInBuffer**) to the structure <u>NET_ITS_OVERLAP_CFG_COND</u>, and set the input parameter (**IpInParamBuffer**) to the structure <u>NET_ITS_OVERLAP_CFG_V50</u> for setting the parameters to display license plate information on alarm picture.
- **5.** Call <u>NET_DVR_StartDownload</u> with "NET_SDK_DOWNLOAD_VEHICLE_BLOCKALLOWLIST_FILE" (command No.: 7) to download the blocklist and allowlist template.
- **6.** Call <u>NET_DVR_UploadFile_V40</u> with "UPLOAD_VEHICLE_BLOCKALLOWLIST_FILE" (command No.: 13) to import the blocklist and allowlist information filled in the template.
- 7. Optional: Call <u>NET_DVR_STDXMLConfig</u> to pass through the request URL: POST <u>/ISAPI/Traffic/channels/<ID>/searchLPListAudit</u> and set <u>IpInBuffer</u> of <u>IpInputParam</u> to the message <u>XML_LPListAuditSearchDescription</u> to search for the configured or existing blocklist or allowlist.
- 8. Configure arming schedule for blocklist ANPR alarm or allowlist ANPR alarm.
 - Configure arming schedule for blocklist ANPR alarm
 - a. Call <u>NET_DVR_GetSTDConfig</u> with "NET_DVR_GET_VEHICLE_BLOCKLIST_SCHEDULE" (command No: 6622) to get the configured or existing arming schedule of blocklist ANPR alarm for reference.

iNote

The arming schedule parameters (<u>NET_DVR_EVENT_SCHEDULE</u>) are returned by the output buffer (**IpOutBuffer**) of structure <u>NET_DVR_STD_CONFIG</u> .

- b. Call <u>NET_DVR_SetSTDConfig</u> with "NET_DVR_SET_VEHICLE_BLOCKLIST_SCHEDULE" (command No.: 6623) and set the input buffer (**IpInBuffer**) of structure

 NET_DVR_STD_CONFIG to NET_DVR_EVENT_SCHEDULE for setting arming schedule.
- Configure arming schedule for allowlist ANPR alarm
 - a. Call <u>NET_DVR_GetSTDConfig</u> with "NET_DVR_GET_VEHICLE_ALLOWLIST_SCHEDULE" (command No: 6624) to get the configured or existing arming schedule of allowlist ANPR alarm for reference.

Note

The arming schedule parameters (<u>NET_DVR_EVENT_SCHEDULE</u>) are returned by the output buffer (**IpOutBuffer**) of structure <u>NET_DVR_STD_CONFIG</u> .

- b. Call <u>NET_DVR_SetSTDConfig</u> with "NET_DVR_SET_VEHICLE_ALLOWLIST_SCHEDULE" (command No.: 6625) and set the input buffer (**IpInBuffer**) of structure **NET_DVR_STD_CONFIG** to **NET_DVR_EVENT_SCHEDULE** for setting arming schedule.
- 9. Optional: Call <u>NET_DVR_GetSTDAbility</u>, set the dwAbilityType to "NET_DVR_GET_EVENT_TRIGGERS_CAPABILITIES" (value: 3501), and set condition parameter

IpCondBuffer in the structure of <u>NET_DVR_STD_ABILITY</u> to "NULL" for getting the configuration capability of blocklist and allowlist ANPR alarm linkage.

The configuration capability is returned in the message <u>XML_EventTriggersCap</u> by the output parameter **IpOutBuffer** in the structure of <u>NET_DVR_STD_ABILITY</u>.

- 10. Configure linkage action for blocklist ANPR alarm or allowlist ANPR alarm.
 - Configure linkage action for blocklist ANPR alarm
 - a. Call <u>NET_DVR_GetSTDConfig</u> with "NET_DVR_GET_VEHICLE_BLOCKLIST_EVENT_TRIGGER" (command No.: 6626) to get the configured or existing linkage action of blocklist ANPR alarm for reference.

$\bigcap_{\mathbf{i}}$ Note

The linkage action parameters (<u>NET_DVR_EVENT_TRIGGER</u>) are returned by the output buffer (**IpOutBuffer**) of structure <u>NET_DVR_STD_CONFIG</u> .

- b. Call <u>NET_DVR_SetSTDConfig</u> with "NET_DVR_SET_VEHICLE_BLOCKLIST_EVENT_TRIGGER" (command No.: 6627) and set the input buffer (**IpInBuffer**) of structure

 NET_DVR_STD_CONFIG to NET_DVR_EVENT_TRIGGER for setting linkage action.
- Configure linkage action for allowlist ANPR alarm
 - a. Call <u>NET_DVR_GetSTDConfig</u> with "NET_DVR_GET_VEHICLE_ALLOWLIST_EVENT_TRIGGER" (command No.: 6628) to get the configured or existing linkage action of allowlist ANPR alarm for reference.

iNote

The linkage action parameters (<u>NET_DVR_EVENT_TRIGGER</u>) are returned by the output buffer (**IpOutBuffer**) of structure <u>NET_DVR_STD_CONFIG</u> .

- b. Call <u>NET_DVR_SetSTDConfig</u> with "NET_DVR_SET_VEHICLE_ALLOWLIST_EVENT_TRIGGER" (command No.: 6629) and set the input buffer (**IpInBuffer**) of structure

 NET_DVR_STD_CONFIG_ to NET_DVR_EVENT_TRIGGER for setting linkage action.
- **11. Optional:** Receive blocklist and allowlist ANPR alarm in arming mode (see <u>Receive Alarm/Event</u> <u>in Arming Mode</u>) or listening mode (see <u>Receive Alarm/Event in Listening Mode</u>) when alarm is triggered.

iNote

- The commands (ICommand) to receive blocklist and allowlist ANPR alarms should be set to "COMM_VEHICLE_CONTROL_ALARM" (command No.: 0x3059) in
- <u>NET_DVR_SetDVRMessageCallBack_V50</u> and <u>NET_DVR_StartListen_V30</u>.
- For alarm details, refer to the structure of **NET_DVR_VEHICLE_CONTROL_ALARM**.

What to do next

Call **NET DVR Logout** and **NET DVR Cleanup** to log out from device and release resources.

2.3.4 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 <u>NET_DVR_Login_V40</u> 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

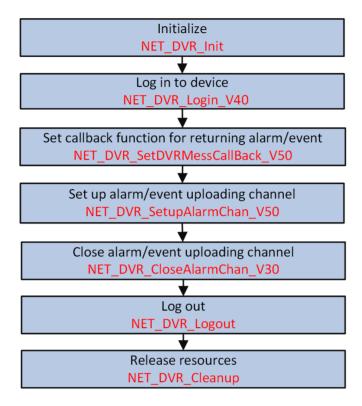


Figure 2-3 Programming Flow of Receiving Alarm/Event in Arming Mode

1. Call <u>NET_DVR_SetDVRMessageCallBack_V50</u> to set callback function for returning alarm/event information.



- 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 ICommand (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 ICommand 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 <u>NET_DVR_CloseAlarmChan_V30</u> 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 IUserID;
//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};
IUserID = NET DVR Login V40(&struLoginInfo, &struDeviceInfoV40);
if (IUserID < 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 |Handle = -1;
if (0 == strlen(szSubscribe))
```

```
//Arm
 IHandle = NET DVR SetupAlarmChan V50(IUserID, &struSetupParamV50, NULL, strlen(szSubscribe));
else
//Subscribe
LIHandle = NET DVR SetupAlarmChan V50(IUserID, &struSetupParamV50, szSubscribe, strlen(szSubscribe));
if (IHandle < 0)
printf("NET DVR SetupAlarmChan V50 error, %d\n", NET DVR GetLastError());
NET DVR Logout(IUserID);
NET_DVR_Cleanup();
return;
}
Sleep(20000);
//Disarm the uploading channel
if (!NET_DVR_CloseAlarmChan_V30(IHandle))
 printf("NET_DVR_CloseAlarmChan_V30 error, %d\n", NET_DVR_GetLastError());
 NET_DVR_Logout(IUserID);
 NET_DVR_Cleanup();
 return;
}
//Log out
NET_DVR_Logout(IUserID);
//Release resources
NET_DVR_Cleanup();
return;
```

What to do next

Call **NET DVR Logout** and **NET DVR Cleanup** to log out and release resources.

2.3.5 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 <u>NET_DVR_Init</u> to initialize the development environment.
- Make sure you have configured the alarm/event parameters, refer to the typical alarm/event configurations for details.

Steps

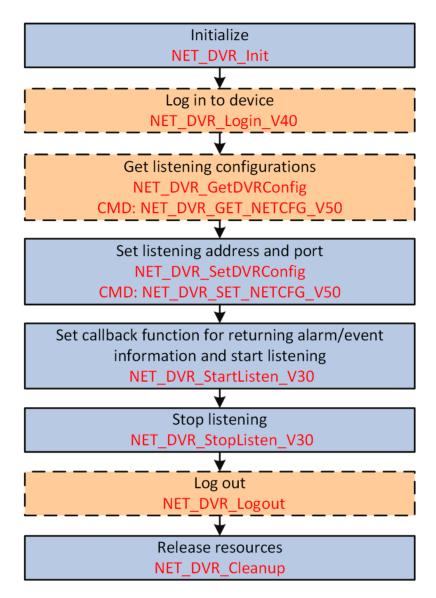


Figure 2-4 Programming Flow of Receiving Alarm/Event in Listening Mode

- **1. Optional:** Call **NET DVR Login V40** to log in to device.
- 2. Optional: Call <u>NET_DVR_GetDVRConfig</u> 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 <u>NET_DVR_NETCFG_V50</u> by the output parameter pointer lpOutBuffer.
- **3.** Call <u>NET_DVR_SetDVRConfig</u> with "NET_DVR_SET_NETCFG_V50" (command No.: 1016) and specify the input parameter pointer **IpInBuffer** to the structure <u>NET_DVR_NETCFG_V50</u> for setting the listening address and port.
- **4.** Call <u>NET_DVR_StartListen_V30</u> to set callback function for returning alarm/event information and start the listening.

i Note

For the integration via device network SDK (HCNetSDK), to receive different types of alarm/ event information, the parameter **ICommand** (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 **ICommand** 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 |UserID:
 NET DVR DEVICEINFO V30 struDeviceInfo;
IUserID = NET DVR Login V30("172.0.0.100", 8000, "admin", "12345", &struDeviceInfo);
if (IUserID < 0)
   printf("Login error, %d\n", NET_DVR_GetLastError());
   NET DVR Cleanup();
   return;
//Enable listening
 LONG IHandle;
IHandle = NET_DVR_StartListen_V30(NULL,7200, MessageCallback, NULL);
if (IHandle < 0)
   printf("NET_DVR_StartListen_V30 error, %d\n", NET_DVR GetLastError());
   NET_DVR_Logout(IUserID);
   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 <u>NET_DVR_Logout</u> (if logged in) and <u>NET_DVR_Cleanup</u> to log out and release resources.

2.4 Dock Station Settings

Dock station works with Digital Evidence Management System. It provides you a simplified way to access, back up, store data, and play audio and video files in body camera. You can associate user accounts and body cameras with platform, search collection records, and upload data in the platform.

i Note

The body camera is a wearable forensic equipment with the functions of video and audio recording, real-time location and 4G network transmission. It is used by the police officers to record law enforcement.

Storage Bin

Open storage bin of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/slot/open?format=json</u> by PUT method and set IpInputParam to <u>JSON_UserInfo</u> .
Set collection priority of storage bin	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>ISAPI/Traffic/dockStation/slot/priorityCollection?format=json</u> by PUT method and set IpInputParam to <u>JSON_PriorityCollection</u> .

Basic Configuration

Get basic parameters of dock	Call NET_DVR_STDXMLConfig to transmit /ISAPI/Traffic/
station	dockStation/basicInfo?format=json by GET method.

	The parameters are returned in the message <u>JSON_BasicInfo</u> by IpOutputParam .
Set basic parameters of dock	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/</u>
station	dockStation/basicInfo?format=json by PUT method and set
	IpInputParam to <u>JSON_BasicInfo</u> .

Platform Access

Get access configuration capability of dock station and	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/System/</u> <u>deviceInfo/capabilities</u> by GET method.
platform	The device configuration capability is returned in the message <u>XML Cap DeviceInfo</u> by IpOutputParam . If the node DockStation is returned in the capability, it indicates that access configuration of dock station and platform is supported.
Get access parameters of dock station and platform	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/System/deviceInfo</u> by GET method. The device parameters are returned in the message <u>XML_DeviceInfo</u> by IpOutputParam. The access parameters are returned by the node <dockstation> in the message.</dockstation>
Set access parameters of dock station and platform	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/System/deviceInfo</u> by PUT method and set IpInputParam to <u>XML_DeviceInfo</u> with node <dockstation> configured.</dockstation>

Data Uploading Schedule

Get configuration capability of data uploading (from dock station to platform) schedule	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/DockStation/PlatformConfig/schedule/capabilities?</u> <u>format=json</u> by GET method. The capability is returned in the message <u>JSON_ScheduleCap</u> by IpOutputParam.
Get parameters of data uploading (from dock station to platform) schedule	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/platformConfig/schedule?format=json</u> by GET method. The parameters are returned in the message <u>JSON_Schedule</u> by IpOutputParam.
Set parameters of data uploading (from dock station to platform) schedule	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/platformConfig/schedule?format=json</u> by PUT method and set IpInputParam to <u>JSON_Schedule</u> .

Cloud Storage Access

Get access configuration capability of dock station and cloud storage	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/</u> <u>ContentMgmt/channels/<id>/cloudStorage/<id>/capabilities</id></id></u> by GET method.
	The configuration capability is returned in the message XML_Cap_CloudStorage by IpOutputParam.
Get access parameters of dock station and cloud storage	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/</u> <u>ContentMgmt/channels/<id>/cloudStorage/<id></id></id></u> by GET method. The parameters are returned in the message <u>XML_CloudStorage</u> by IpOutputParam.
Set access parameters of dock station and cloud storage	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/</u> <u>ContentMgmt/channels/<id>/cloudStorage/<id></id></id></u> by PUT method and set IpInputParam to <u>XML_CloudStorage</u> .
Perform access test of dock station and cloud storage	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/</u> <u>ContentMgmt/channels/<id>/cloudStorage/test</id></u> by POST method and set IpInputParam to <u>XML_CloudStorageTestDescription</u> .

Person Management

Get person management capability of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement/capabilities?format=json</u> by GET method.
	The capability is returned in the message <u>JSON_Cap_PersonInfo</u> by IpOutputParam .
Get all persons' information of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement?format=json</u> by GET method. The information is returned in the message <u>JSON_PersonInfoList</u> by IpOutputParam .
Set all persons' information of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement?format=json</u> by PUT method and set IpInputParam to <u>JSON_PersonInfoList</u> .
Add a person to dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement?format=json</u> by POST method and set IpInputParam to <u>JSON_PersonInfo</u> .

Delete all persons of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement?format=json</u> by DELETE method.
Get a person's information of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement/<id>?format=json</id></u> by GET method. The information is returned in the message <u>JSON_PersonInfo</u> by IpOutputParam.
Set a person's information of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement/<id>?format=json_by PUT method and set IpInputParam to <u>JSON_PersonInfo</u>.</id></u>
Delete a person of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/personManagement/<id>?format=json</id></u> by DELETE method.

Body Camera Management

Get body camera management capability of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/deviceManagement/capabilities?format=json</u> by GET method. The capability is returned in the message <u>JSON_Cap_DeviceInfo</u> by IpOutputParam .
Get all body cameras' information of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/deviceManagement?format=json</u> by GET method. The information is returned in the message <u>JSON_DeviceInfoList</u> by IpOutputParam.
Add a body camera to dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/deviceManagement?format=json</u> by POST method and set IpInputParam to <u>JSON_DeviceInfo</u> .
Get a body camera's information of dock station	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/ISAPI/Traffic/dockStation/deviceManagement/<id>?format=json</id></u> by GET method. The information is returned in the message <u>JSON_DeviceInfo</u> by IpOutputParam.

Set a body camera's	Call NET_DVR_STDXMLConfig to transmit /ISAPI/Traffic/	
information of dock station	dockStation/deviceManagement/ <id>?format=json by PUT</id>	
	method and set IpInputParam to <u>JSON_DeviceInfo</u> .	
Delete a body camera of dock	Call NET_DVR_STDXMLConfig to transmit /ISAPI/Traffic/	
station	dockStation/deviceManagement/ <id>?format=json by DELETE</id>	
	method.	

2.5 Advanced Functions

Vehicle Detection

Get capability of vehicle detection	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/vehicleDetect/</id></u> <u>capabilities</u> by GET method.	
	The capability is returned in the message XML_Cap_VehicleDetectCfg by IpOutputParam.	
Get parameters of vehicle detection	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/vehicleDetect</id></u> by GET method.	
	The parameters are returned in the message <u>XML_VehicleDetectCfg</u> by IpOutputParam.	
Set parameters of vehicle detection	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/vehicleDetect</id></u> by PUT method and set IpInputParam to <u>XML_VehicleDetectCfg</u> .	

Mixed Traffic Detection

Get capability of mixed traffic detection	Call NET_DVR_STDXMLConfig to transmit /	
	ISAPI/Traffic/channels/ <id>/</id>	
	HVTVehicleDetects/capabilities by GET	
	method.	

	The capability is returned in the message <u>XML_Cap_HVTVehicleDetectCfg</u> by IpOutputParam.
Get parameters of mixed traffic detection	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/</id></u> <u>HVTVehicleDetects</u> by GET method. The parameters are returned in the message <u>XML_HVTVehicleDetectCfg</u> by IpOutputParam .
Set parameters of mixed traffic detection	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/</id></u> <u>HVTVehicleDetects</u> by PUT method and set IpInputParam to <u>XML_HVTVehicleDetectCfg</u> .
Get parameters of mixed traffic detection by scene	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/</id></u> <u>HVTVehicleDetects/<sid></sid></u> by GET method. The parameters are returned in the message <u>XML_HVTVehicleDetectScene</u> by IpOutputParam.
Set parameters of mixed traffic detection by scene	Call <u>NET_DVR_STDXMLConfig</u> to transmit <u>/</u> <u>ISAPI/Traffic/channels/<id>/</id></u> <u>HVTVehicleDetects/<sid></sid></u> by PUT method and set IpInputParam to <u>XML_HVTVehicleDetectScene</u> .

Chapter 3 API Reference

3.1 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.
- <u>NET_DVR_Init</u> 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.

3.2 NET_DVR_CloseAlarmChan_V30

Close alarm uploading channel.

API Definition

```
BOOL NET_DVR_CloseAlarmChan_V30( LONG | IAlarmHandle );
```

Parameters

IAlarmHandle

Value returned by <u>NET_DVR_SetupAlarmChan_V50</u>.

Return Values

Return TURE for success, and return FALSE for failure.

If FALSE is returned, you can call <u>NET_DVR_GetLastError</u> 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** .

3.3 NET_DVR_GetDeviceAbility

Get the device capabilities.

API Definition

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

Parameters

IUserID

[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.

3.4 NET_DVR_GetDeviceConfig

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

API Definition

```
BOOL NET_DVR_GetDeviceConfig(
LONG IUserID,
DWORD dwCommand,
DWORD dwCount,
LPVOID IpInBuffer,
DWORD dwInBufferSize,
LPVOID IpStatusList,
LPVOID IpOutBuffer,
DWORD dwOutBufferSize
);
```

Parameters

IUserID

[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.

IpInBuffer

[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**).

IpStatusList

[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.

IpOutBuffer

[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 **IpStatusList** of one camera is larger than 1, the corresponding **IpOutBuffer** 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

3.5 NET_DVR_GetDownloadState

Get the file downloading progress and status.

API Definition

```
LONG NET_DVR_GetDownloadState(

LONG IDownloadHandle,

DWORD *pProgress
);
```

Parameters

IDownloadHandle

[IN] Handle for downloading files, which is returned by **NET DVR StartDownload**.

pProgress

[OUT] Returned progress value, which is ranging from 1 to 100.

Return Values

Returns -1 for calling failed, and returns other values as the downloading status codes: 1-Downloaded, 2-Downloading, 3-Downloading Failed, 4-Network Disconnected, Unknown Status. If returning failed, you can call <u>NET_DVR_GetLastError</u> to get the error code.

3.6 NET_DVR_GetDVRConfig

Get the device configuration information.

API Definition

```
BOOL NET_DVR_GetDVRConfig(
LONG IUserID,
DWORD dwCommand,
```

```
LONG | IRuleID,
LONG | IChannel,
LPVOID | IpOutBuffer,
DWORD | dwOutBufferSize,
LPDWORD | IpBytesReturned
);
```

Parameters

IUserID

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

dwCommand

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

IRuleID

[IN] Rule ID.

IChannel

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

IpOutBuffer

[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.

IpBytesReturned

[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 <u>NET_DVR_GetLastError</u> 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

3.7 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.

3.8 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.

3.9 NET_DVR_GetSTDAbility

Get the device capabilities.

API Definition

Parameters

IUserID

[IN] Value returned by **NET DVR Login V40**.

dwAbilityType

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

IpAbilityParam

[IN/OUT] Capability details, including condition parameter, input parameter, output parameter, and so on (see details in the structure <u>NET_DVR_STD_ABILITY</u>), which are different according to different capability types.

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_GetSTDConfig

Get the device configuration information.

API Definition

```
BOOL NET_DVR_GetSTDConfig(
LONG | UserID,
DWORD | dwCommand,
NET_DVR_STD_CONFIG | IpConfigParam
);
```

Parameters

IUserID

[IN] Value returned by **NET DVR Login V40**.

dwCommand

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

IpConfigParam

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

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

3.11 NET_DVR_GetUploadState

Get the file uploading progress and status.

API Definition

```
LONG NET_DVR_GetUploadState(

LONG IUploadHandle,

DWORD *pProgress
);
```

Parameters

IUploadHandle

[IN] Handling for uploading files, which is returned by NET_DVR_UploadFile_V40 .

pProgress

[OUT] Returned progress value.

Return Values

Return -1 for failure, and return other values as the uploading status codes, see details in the following table.

Table	2_1	Hole	ading	Status	Code
iabie	Э-Т	UDIC	Jaume	Status	Loue

Return Value	Description	
1	Uploaded successfully.	
2	Uploading.	
3	Uploading failed.	
4	Network disconnected. Unknown status.	

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Return Value	Description	
6	HDD error.	
7	No HDD for saving inquest files.	
8	Insufficient capacity.	
9	Insufficient device resource.	
10	No more files can be uploaded.	
11	Too large file size.	
15	File type error.	
19	Invalid file format.	
20	Incorrect file content.	
21	The uploaded audio sampling rate is not supported.	
22	Insufficient storage in the face library.	
26	Name error.	
27	Invalid picture resolution.	
28	Too many targets on the picture.	
29	No target is recognized on the picture.	
30	Picture recognition failed.	
31	Analysis engine exception.	
32	Analyzing additional information on the picture failed.	
33	Thumbnail modeling failed.	
34	Incorrect security verification key.	
35	Downloading picture via URL has not started.	
36	Duplicate custom ID of different persons.	
37	Person ID error (The ID is saved in customHumanID of FaceAppendData).	
38	Modeling failed. Device inner error.	
39	Modeling failed. Face modeling error.	
40	Modeling failed. Face score error.	

Return Value	Description	
41	Modeling failed. Feature collection error.	
42	Modeling failed. Attribute collection error.	
43	Picture data error.	
44	Picture additional information error.	
45	Certificate has already existed.	

3.12 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 <u>NET_DVR_GetLastError</u> 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 <u>NET_DVR_SetSDKInitCfg</u> 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

3.13 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**.

IpDeviceInfo

[OUT] Device information. See details in the structure **NET DVR DEVICEINFO V40**.

Return Values

- For asynchronous login, the callback function (<u>fLoginResultCallBack</u>) configured in the structure (<u>NET_DVR_USER_LOGIN_INFO</u>) 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

3.14 NET_DVR_Logout

Log out from devices.

API Definitions

```
BOOL NET_DVR_Logout(
LONG | IUserID
);
```

Parameters

IUserID

[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*.

3.15 NET DVR ManualSnap

Manually capture pictures.

API Definition

```
BOOL NET_DVR_ManualSnap(
LONG | UserID,
LPNET_DVR_MANUALSNAP | IpInter,
LPNET_DVR_PLATE_RESULT | IpOuter
);
```

Parameters

IUserID

[IN] User ID, which is returned by **NET_DVR_Login_V40**.

lpInte

[IN] Manual capture parameters, see details in the structure <u>NET_DVR_MANUALSNAP</u>.

IpOuter

[OUT] Recognized result parameters, see details in the structure **NET DVR PLATE RESULT**

Return Value

Return *TRUE* for success, and return *FALSE* for failure.

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

3.16 NET_DVR_SetDeviceConfig

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

API Definition

```
BOOL NET_DVR_SetDeviceConfig(
LONG IUserID,
DWORD dwCommand,
DWORD dwCount,
LPVOID IpInBuffer,
DWORD dwInBufferSize,
LPVOID IpStatusList,
LPVOID IpInParamBuffer,
```

DWORD **dwInParamBufferSize**);

Parameters

IUserID

[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.

IpInBuffer

[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**.

IpStatusList

[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.

IpInParamBuffer

[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

3.17 NET_DVR_SetDVRConfig

Set the device parameters.

API Definition

```
BOOL NET_DVR_SetDVRConfig(
LONG | IUserID,
DWORD dwCommand,
LONG | IChannel,
LPVOID | IpInBuffer,
DWORD dwInBufferSize
);
```

Parameters

IUserID

[IN] Value returned by <u>NET_DVR_Login_V40</u>.

dwCommand

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

IChannel

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

IpInBuffer

[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

3.18 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 ICommand, 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(ICommand)
  {
    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...
    }
    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", strulTSPlateResult.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
        (struITSPlateResult.struPicInfo[i].byType == 2))
```

```
sprintf(filename,"testITSpic%d %d.jpg",iNum,i);
          fSnapPic=fopen(filename,"wb");
          fwrite(stru|TSPlateResult.struPicInfo[i].pBuffer, stru|TSPlateResult.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 ICommand, 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(ICommand)
    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(&strulTSPlateResult, pAlarmInfo, sizeof(strulTSPlateResult));
      for (i=0;i<struITSPlateResult.dwPicNum;i++)
         printf("License Plate Number: %s\n", strulTSPlateResult.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 (IUserID < 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 | Handle = NET DVR SetupAlarmChan V41(| UserID, & struSetupParam);
if (IHandle < 0)
   printf("NET_DVR_SetupAlarmChan_V41 error, %d\n", NET_DVR_GetLastError());
   NET DVR Logout(IUserID);
   NET_DVR_Cleanup();
   return;
}
Sleep(20000);
//Disarm uploading channel
if (!NET_DVR_CloseAlarmChan_V30(IHandle))
   printf("NET_DVR_CloseAlarmChan_V30 error, %d\n", NET_DVR_GetLastError());
   NET DVR Logout(IUserID);
   NET_DVR_Cleanup();
```

```
return;
}

//User logout

NET_DVR_Logout(IUserID);
//Release SDK resource

NET_DVR_Cleanup();
return;
}
```

See Also

NET DVR SetupAlarmChan V50

3.19 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	3-2	NFT	SDK	INIT	CFG	TYPF
Iabic .	J-E	1461	JUK	11411	~ ~	

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 Linux and Windows system).	NET_DVR_LOCAL_SDK _PATH
NET_SDK_INIT_CFG_ LIBEAY_PATH	3	Set path (including library name) for libeay32.dll (Windows),	Path in string format, e.g., <i>C:\\libeay32.dll</i> .

enumType	Value	Description	lpInBuff
		libcrypto.so (Linux), and libcrypto.dylib (Mac) of OpenSSL in version 1.1.1 and 1.0.2.	
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., <i>C:\\ssleay32.dll</i> .

IpInBuff

[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 **<u>NET_DVR_Init</u>** to initialize and check the dependent libraries or capabilities.

3.20 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 IUserID,
NET_DVR_SETUPALARM_PARAM_V50 IpSetupParam,
char *pData,
DWORD dwDataLen,
);
```

Parameters

IUserID

[IN] Value returned by <u>NET_DVR_Login_V40</u>.

IpSetupParam

[IN] Arming parameters, refer to the structure <u>NET_DVR_SETUPALARM_PARAM_V50</u> 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 <u>NET_DVR_CloseAlarmChan_V30</u>. If -1 is returned, you can call <u>NET_DVR_GetLastError</u> 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**.

3.21 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.

wl ocalPort

[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 <a href="https://www.netword.netwo

If -1 is returned, you can call <u>NET_DVR_GetLastError</u> 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).

3.22 NET DVR StartDownload

Start downloading files

API Definition

```
LONG NET_DVR_StartDownload(
LONG IUserID,
DWORD dwDownloadType,
LPVOID IpInBuffer,
DWORD dwInBufferSize,
char const *sFileName
);
```

Parameters

IUserID

[IN] Value returned by NET DVR Login V40.

dwDownloadType

[IN] Downloading commands which specify the file type to download, see details in the enumeration **NET SDK DOWNLOAD TYPE**.

IpInBuffer

[IN] Input parameters, which are different according to different downloading commands.

dwInBufferSize

[IN] Input buffer size.

sFileName

[IN] Path for saving downloaded files (absolute path, includes file name).

Return Values

Returns -1 for failure, and returns other values as the parameters of <u>NET_DVR_StopDownload</u> and **NET_DVR_GetDownloadState** .

If returning failed, you can call **NET DVR GetLastError** to get the error code.

3.23 NET_DVR_SetSTDConfig

Set the device parameters.

API Definition

```
BOOL NET_DVR_SetSTDConfig(
LONG IUserID,
DWORD dwCommand,
NET_DVR_STD_CONFIG IpConfigParam
);
```

Parameters

IUserID

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

dwCommand

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

IpConfigParam

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



When getting configuration parameters, the **IpOutBuffer** in the **IpConfigParam** 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 <u>NET_DVR_GetLastError</u> to get the error code.

See Also

NET DVR GetSTDConfig

3.24 NET_DVR_STDXMLConfig

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

API Definition

```
BOOL NET_DVR_STDXMLConfig(
LONG IUserID,
const NET_DVR_XML_CONFIG_INPUT *IpInputParam,
NET_DVR_XML_CONFIG_OUTPUT *IpOutputParam
);
```

Parameters

IUserID

[IN] Value returned by <u>NET_DVR_Login_V40</u>.

IpInputParam

[IN] Input parameters, refer to the structure <u>NET_DVR_XML_CONFIG_INPUT</u> for details.

IpOutputParam

[IN][OUT] Output parameters, refer to the structure <u>NET_DVR_XML_CONFIG_OUTPUT</u> 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 **IpInputParam** and output parameter **IpOutputParam** 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_I	Component of Text Protocol	
IpInputParam	IpRequestUrl (see in structure NET_DVR_XML_CONFIG_INPU_T)	Method+URL E.g., GET /ISAPI/System/ capabilities
	IpInBuffer (see in structure NET_DVR_XML_CONFIG_INPU T)	Request Message

Parameter of NET_DVR_STDXMLConfig		Component of Text Protocol
IpOutputParam	IpOutBuffer (see in structure NET_DVR_XML_CONFIG_OUTP UT)	Response Message
	IpStatusBuffer (see in structure NET_DVR_XML_CONFIG_OUTP UT)	Response Message

3.25 NET_DVR_StopDownload

Stop downloading files.

API Definition

```
BOOL NET_DVR_StopDownload( LONG IHandle );
```

Parameters

IHandle

[IN] Handle for downloading files, which is returned by NET_DVR_StartDownload.

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.

3.26 NET_DVR_StopListen_V30

Stop listening (supports multiple threads).

API Definition

```
BOOL NET_DVR_StopListen_V30(
LONG IListenHandle
);
```

Parameters

IListenHandle

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 $\underline{\textit{Device Network SDK}}$ $\underline{\textit{Errors}}$.

3.27 NET_DVR_UploadClose

Stop uploading files.

API Definition

```
BOOL NET_DVR_UploadClose(
LONG | IUploadHandle
);
```

Parameters

IUploadHandle

[IN] Handle for uploading files, which is returned by NET_DVR_UploadFile_V40 .

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.

3.28 NET_DVR_UploadFile_V40

Upload file.

API Definition

```
LONG NET_DVR_UploadFile_V40(
LONG IUserID,
DWORD dwUploadType,
LPVOID IpInBuffer,
DWORD dwInBufferSize,
char *sFileName,
LPVOID IpOutBuffer,
DWORD dwOutBufferSize
);
```

Parameters

IUserID

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

dwUploadType

[IN] Uploading commands, which specify the file type to upload, see details in the enumeration **NET SDK UPLOAD TYPE**.

IpInBuffer

[IN] Input parameters, which are different according to different uploading commands.

dwInBufferSize

[IN] Input buffer size.

sFileName

[IN] Name of the file to be uploaded. For the complete file path (including the file name), the maximum size is 128 bytes, and the maximum size of the file name is 32 bytes.

IpOutBuffer

[OUT] Output parameters, which are different according to different uploading commands.

dwOutBufferSize

[OUT] Output buffer size.

Return Values

Return -1 for failure, and return other values as the parameter of <u>NET_DVR_UploadClose</u> and <u>NET_DVR_GetUploadState</u>.

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

Chapter 4 Callback Function

4.1 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.
IpDeviceInfo	NET_DVR_DEVICEINFO _V40	Device information, such as serial No., channel, capability, and so on.
pUser	void*	User data.

4.2 MSGCallBack

Alarm/event information callback function.

Callback Function Definition

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

Parameters

ICommand

[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

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

dwBufLen

[OUT] Size of alarm/event information buffer.

pUser

[OUT] User data.

Chapter 5 Structure and Enumeration

5.1 Data Structure

5.1.1 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 <a "="" href="https://www.net_burner.com/net_burn</td></tr><tr><td>struResourceUsage</td><td>NET_ALARM_RESOUR
CE_USAGE</td><td>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.

5.1.2 NET_ALARM_RECORD_EXCEPTION

Structure about Recording Exception Alarm Information

Member	Data Type	Description
byReason	ВУТЕ	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.

Member	Data Type	Description
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.

5.1.3 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_UN ION	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.

5.1.4 NET_ALARM_RESOURCE_USAGE

Structure about Resource Usage Alarm Information

Member	Data Type	Description
byLevel	ВУТЕ	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.

5.1.5 NET_ALARM_STREAM_EXCEPTION

Structure about Video Exception Alarm Information

Member	Data Type	Description
struIP	NET_DVR_IPADDR_UN ION	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	ВУТЕ	Exception reason: 0-data writing exception, 1-network exception.
byRes	BYTE[]	Reserved, set to 0. The maximum array length is 307 bytes.

5.1.6 NET_DVR_AID_ALARM_V41

Traffic incident alarm information structure.

Structure Definition

struct{
DWORD dwSize;
DWORD dwRelativeTime;
DWORD dwAbsTime;
NET_VCA_DEV_INFO struDevInfo;
NET_DVR_AID_INFO struAlDInfo;
NET_DVR_SCENE_INFO struSceneInfo;
DWORD dwPicDataLen;

```
BYTE
              *plmage;
BYTE
              byDataType;
BYTE
              byLaneNo;
WORD
                wMilliSecond:
              byMonitoringSiteID[MONITORSITE_ID_LEN/*48*/];
BYTE
              byDeviceID[DEVICE_ID_LEN/*48*/];
BYTE
DWORD
                 dwXmlLen;
              *pXmlBuf;
char
              byTargetType;
BYTE
              byRuleID;
BYTE
WORD
                wDevInfolvmsChannelEx;
BYTE
              byRes[4];
                 dwPlateSmallPicDataLen;
DWORD
char*
              pPlateSmallImage;
              byRes1[4];
}NET_DVR_AID_ALARM_V41, *LPNET_DVR_AID_ALARM_V41;
```

Members

dwSize

Structure size.

dwRelativeTime

Time of UTC ± 00:00.

dwAbsTime

Local time.

struDevInfo

Camera information, see details in the structure NET VCA DEV INFO.

struAlDInfo

Traffic incident information, see details in the structure NET DVR AID INFO.

struSceneInfo

Scene information, see details in the structure **<u>NET_DVR_SCENE_INFO</u>**.

dwPicDataLen

Picture length.

plmage

Picture pointer.

byDataType

Data upload method: 0- data direct upload, 1- cloud storage server URL (original picture data turned into URL data, picture length turned into URL length).

byLaneNo

Linked lane No.

wMilliSecond

Time mark in millisecond.

byMonitoringSiteID

Camera No. (intersection No., internal No.)

byDeviceID

Device No.

dwXmlLen

Length of alarm information in XML format.

pXmlBuf

Pointer of alarm information in XML format.

byTargetType

Detection target type: 0-pedestrian, 1-motorcycle, 2-tricycle.

byRuleID

Rule ID, which ranges from 1 to 4.

wDevInfolymsChannelEx

Extension of device channel No., which is compatible with **bylvmsChannel** in **NET VCA DEV INFO**. The maximum length is 255.

byRes

Reserved.

dwPlateSmallPicDataLen

Size of the thumbnail of the license plate.

pPlateSmallImage

Pointer pointing to the thumbnail of the license plate.

byRes1

Reserved.

5.1.7 NET_DVR_AID_INFO

Structure about traffic incident information.

Structure Definition

```
struct{

BYTE byRuleID;

BYTE byRes1[3];

BYTE byRuleName[NAME_LEN/*32*/];

DWORD dwAIDType;

NET_DVR_DIRECTION struDirect;

BYTE bySpeedLimit;

BYTE byCurrentSpeed;
```

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BYTE **byVehicleEnterState**;

BYTE **byState**;

BYTE byParkingID[16];
DWORD dwAIDTypeEx;
BYTE byRes2[16];

}NET_DVR_AID_INFO, *LPNET_DVR_AID_INFO;

Members

byRuleID

Rule No., which is the subscript of the rule configuration structure ranging from 0 to 16.

byRes1

Reserved.

byRuleName

Rule name.

dwAIDType

Traffic incident type, see details in the structure TRAFFIC_AID_TYPE.

struDirect

Area that the alarm occurs, see details in the structure **NET_DVR_DIRECTION** .

bySpeedLimit

Speed limit, unit: km/h, range: [0, 255].

byCurrentSpeed

Current speed, unit: km/h, range: [0, 255].

byVehicleEnterState

Vehicle entry and exit status: 0-invalid, 1-entered, 2-exited.

byState

0-uploading change, 1-uploading auto-switch, 2-uploading picture data captured by the current device by schedule. The value "2" is valid when **dwAIDType** is "PARKING" (0x02), and it is used for the platform to search for the parked vehicles that are not detected by the algorithm according to the picture sequence.

byParkingID

Parking space No.

dwAIDTypeEx

Extended traffic incident types, see details in the enumeration TRAFFIC_AID_TYPE_EX.

byRes2

Reserved.

5.1.8 NET_DVR_AID_PARAM

Structure of traffic event parameter.

Structure Definition

```
struct{
DWORD
             wParkingDuration;
DWORD
             wPedestrianDuration;
DWORD
             wDebrisDuration:
DWORD
             wCongestionLength;
DWORD
             wCongestionDuration;
DWORD
             wInverseDuration;
DWORD
             wInverseDistance;
DWORD
             wInverseAngleTolerance;
           byRes1[28];
BYTE
}NET DVR AID PARAM, *LPNET DVR AID PARAM;
```

Members

wParkingDuration

Parking duration, value range: 10-120s

wPedestrianDuration

Pedestrian duration, value range: 1-120s

wDebrisDuration

Debris duration, value range: 10-120s

wCongestionLength

Congestion length threshold, value range: 5 m to 200 m

wCongestionDuration

Congestion duration, value range: 10s to 120s

wInverseDuration

Inverse duration, value range: 1s to 10s

wInverseDistance

Inverse distance, value range: 2 m to 100 m, default: 10 m

wInverseAngleTolerance

Tolerated angle deviation between traffic and inverse, value range: 90 to 180 degree.

byRes1

Reserved

5.1.9 NET_DVR_ALARMER

Alarm Device Information Structure

Member	Data Type	Description
byUserIDValid	ВУТЕ	Whether the user ID is valid: 0-no, 1-yes
bySerialValid	ВҮТЕ	Whether the serial No. is valid: 0-no, 1-yes
byVersionValid	ВҮТЕ	Whether the version No. is valid: 0-no, 1-yes
byDeviceNameValid	ВУТЕ	Whether the device name is valid: 0-no, 1-yes
byMacAddrValid	ВУТЕ	Whether the MAC address is valid: 0-no, 1-yes
byLinkPortValid	BYTE	Whether the login port No. is valid: 0-no, 1-yes
byDeviceIPValid	ВУТЕ	Whether the device IP address is valid: 0-no, 1-yes
bySocketIPValid	ВУТЕ	Whether the Socket IP address is valid: 0-no, 1-yes
lUserID	LONG	Value returned by <u>NET_DVR_Login_V40</u> , 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.

5.1.10 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.

5.1.11 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_SU BINFO_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.

5.1.12 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
byAlarmOutputNumbe r	Array of BYTE	The triggered alarm output No. E.g. dwAlarmOutputNumber[0]==1 indicates that alarm output No.1 is triggered;

Member	Data Type	Description
		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.

5.1.13 NET_DVR_ALARMINFO_V40

Structure About Uploaded Alarm Information

Member	Data Type	Description
struAlarmFixedHeader	NET_DVR_ALRAM_FIX ED_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 5-1 Relations Between pAlarmData and dwAlarmType

dwAlarmType	Description	pAlarmData
0, 23	Alarm input alarm, pulse alarm	dwTrigerAlarmOutNum*(DWOR D) Alarm output No., +dwTrigerRecordChanNum*(DW ORD) 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*(DWOR D) 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

5.1.14 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 (<u>Table 5-2</u>)	Alarm information union
pRes	DWORD*	Reserved.
byTimeDiffFlag	ВҮТЕ	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 bylSO8601 is "1".
byRes	Array of BYTE	Reserved, set to 0. The maximum size is 5 bytes.

Table 5-2 Union about Alarm Information Structures (uStruAlarm)

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

Table 5-3 Structure about Alarm Input Parameters (strulOAlarm)

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 MET_DVR_ALARMINFO_V40 , each alarm output is represented by 4 bytes.
dwTrigerRecordChanN um	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 5-4 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	ВУТЕ	Picture data format: 0-binary data, 1-URL.
byTarget	ВУТЕ	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 5-5 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 5-6 Structure about Alarm Parameters of Education Sharing System (struRecordingHost)

Member	Data Type	Description
bySubAlarmType	ВҮТЕ	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 5-7 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	ВУТЕ	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 5-8 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.
bуТуре	ВУТЕ	PTZ locked direction: 1-panning is locked, 2-tilting is locked.
byDeicingEnabled	ВҮТЕ	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.

5.1.15 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	ВУТЕ	Alarm data type: 0-invalid, 1-XML, 2-JSON.
byPicturesNumber	ВУТЕ	The number of pictures (number of pPicPackData returned). When this member is 1, only one structure of NET DVR ALARM ISAPI PICD ATA will be returned by pPicPackData . When this member is larger than 1, multiple structures of NET DVR ALARM ISAPI PICD ATA 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_PICD ATA 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.

5.1.16 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.

5.1.17 NET_DVR_CRUISECHAN_INFO

Structure about The Information of Channel That Called Patrol

Member	Data Type	Description
dwEnableCruiseChan	DWORD	Channel that called patrol.
dwCruiseNo	DWORD	Patrol No., 0xfffffff-invalid.

5.1.18 NET_DVR_DEVICEINFO_V30

Device parameter structure (V30).

Device Parameter Structure (V30)

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

Member	Data Type	Description
byDVRType	BYTE	Device type
byChanNum	BYTE	Number of analog channels
byStartChan	ВУТЕ	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	ВУТЕ	Number of channel-zero
byMainProto	ВУТЕ	Transmission protocol type of main stream: 0-private protocol (default), 1-RTSP, 2-private protocol+RTSP
bySubProto	ВУТЕ	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	ВУТЕ	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	ВУТЕ	 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 multistream. 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	ВҮТЕ	 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	ВУТЕ	Start No. of digital channel, 0-no digital channel (e.g., DVR, network camera).
byStartDTalkChan	ВУТЕ	Start No. of two-way audio channel, 0-no two-way audio channel.
byHighDChanNum	ВУТЕ	Number of digital channels, high 8-bit.
bySupport4	ВУТЕ	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	ВУТЕ	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	ВҮТЕ	Number of audio input channels
byStartVoiceInChanNo	ВУТЕ	Start No. of audio input channel, 0-invalid.
byRes3	Array of BYTE	Reserved, set to 0.
byMirrorChanNum	ВҮТЕ	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

5.1.19 NET_DVR_DEVICEINFO_V40

Device Parameter Structure (V40)

Member	Data Type	Description
struDeviceV30	NET_DVR_DEVICEINFO _V30	Device parameters
bySupportLock	ВҮТЕ	Whether supports locking function: 1-support.
byRetryLoginTime	ВУТЕ	Remaining login attempts, it is valid when the user name or password is incorrect and the bySupportLock is 1.

Member	Data Type	Description
byPasswordLevel	ВҮТЕ	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	ВҮТЕ	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	ВҮТЕ	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	ВҮТЕ	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	ВҮТЕ	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	ВҮТЕ	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	ВУТЕ	Whether the member iResidualValidity is valid: 0-invalid, 1-valid.
bySingleStartDTalkCha n	ВУТЕ	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.
bySingleDTalkChanNu ms	ВУТЕ	Total number of channels of the device connected with independent tracks, 0-not support.
byPassWordResetLevel	ВУТЕ	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).
bySupportStreamEncry pt	ВУТЕ	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.

5.1.20 NET DVR DIRECTION

Direction structure.

Structure Definition

```
struct {
  NET_VCA_POINT struStartPoint;
  NET_VCA_POINT struEndPoint;
}NET_DVR_DIRECTION, *LPNET_DVR_DIRECTION;
```

Members

struStartPoint

Start point of the direction, see details in the structure.

struEndPoint

End point of the direction, see details in the structure .

5.1.21 NET_DVR_ETHERNET_V30

Ethernet Configuration Structure

Member	Data Type	Description
struDVRIP	NET_DVR_IPADDR_UN ION	Device IP address
struDVRIPMask	NET_DVR_IPADDR_UN ION	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	ВУТЕ	Network interface No.: 0-invalid, 1-interface 0, 2-interface 1, and so on. This parameter is readonly.
byRes	Array of BYTE	Reserved.

5.1.22 NET_DVR_EVENT_SCHEDULE

Arming Schedule Parameter Structure

Member	Data Type	Description
dwSize	DWORD	Structure size
struAlarmTime	Array of NET_DVR_SCHEDTIME	Arming schedule, 7 days per week, 8 time periods per day
struHolidayAlarmTime	Array of NET_DVR_SCHEDTIME	Holiday arming schedule, see details in the structure .
byRes	ВҮТЕ	Reserved.

5.1.23 NET_DVR_EVENT_TRIGGER

Structure About Event Linkage Configuration

Member	Data Type	Description
dwSize	DWORD	Structure size.
struHandleException	Array of NET_DVR_HANDLEEXC EPTION_V41	Exception handling mode
dwRelRecordChan	Array of DWORD	Actually triggered video channel, represented by value, read starts from 0, and it is invalid after the value of 0xffffffff being read.
struPresetChanInfo	Array of <u>NET_DVR_PRESETCHA</u> <u>N_INFO</u>	Information of channel that called preset
struCruiseChanInfo	Array of NET_DVR_CRUISECHA N_INFO	Information of channel that called patrol
struPtzTrackInfo	Array of NET_DVR_PTZTRACKC HAN_INFO	Information of channel that called pattern
byDirection	Array of BYTE	Triggering direction: 0-reserved, 1-all, 2-forward, 3-backward
szFDID	Char	Face picture library ID
byRes2	Array of BYTE	Reserved

5.1.24 NET_DVR_GEOGLOCATION

Address and location information structure.

Structure Definition

struct{
 int iRes[2];
 DWORD dwCity;
}NET_DVR_GEOGLOCATION, *LPNET_DVR_GEOGLOCATION;

Members

iRes

Reserved, set to 0.

dwCity

Province and city.

5.1.25 NET_DVR_GPS_INFO

Structure about the GPS Information

Member	Data Type	Description
byDirection	BYTE[]	byDirection [0]: 0 (east longitude), 1 (west longitude); byDirection [1]: 0 (north latitude),1 (south latitude). The size of this member is 2 bytes.
bySvs	ВУТЕ	The number of valid satellites for vehicle positioning, whose initial value is 0.
byLocateMode	ВУТЕ	Positioning mode: 0 (autonomous positioning), 1 (difference), 2 (estimation), 3 (the data is invalid). The initial value is 0.
wHDOP	WORD	Horizontal precision factor, which is used to measure the GPS precision, value range: [0.5, 99.9]. The positioning precision less than 6 is high, and that more than 20 should be discarded. The value here is the integer after multiplying 10.
wHeight	WORD	Height, unit: cm.
dwLatitude	DWORD	Latitude, dwLatitude = (actual degree)*3600*100 + (actual

Member	Data Type	Description
		minute)*60*100 + (actual second) *100.
dwLongitude	DWORD	Longitude, dwLongitude = (actual degree)*3600*100 + (actual minute)*60*100 + (actual second) *100.
dwVehicleSpeed	DWORD	Vehicle speed = actual speed *100000, unit: kph.
dwVehicleDirection	DWORD	Vehicle direction is equal to the actual direction multiplying 100. The actual direction is on the basis of north and calculated by clockwise, unit: degree.
byRes	BYTE[]	Reserved field whose size is 8 bytes.

5.1.26 NET_DVR_GPS_STATUS_ALARM

Structure about the GPS Status Information

Member	Data Type	Description
dwSize	DWORD	Structure size.
struGPSTime	NET_DVR_TIME_V30	GPS sampling time (local time).
struGPSInfo	NET_DVR_GPS_INFO	GPS coordinate information.
byRetransFlag	ВҮТЕ	Retransmission flag: 0 (this is a real-time GPS package), 1 (this is a retransmitted GPS package).
byNeedsResponse	ВУТЕ	Whether the response is required: 0 (not required), 1 (required).
bуТуре	ВУТЕ	Reporting type: 0 (unmanned aerial vehicle).

Member	Data Type	Description
byBatteryRemaining	ВУТЕ	Remaining power, the value is between -1 and 100, and -1 indicates that an error occurred.
iRollAngle	int	Rolling angle, value range: [-pi, +pi]. The value of this member is the actual value multiplying 100.
iPitchAngle	int	Pitch angle, value range: [-pi, +pi]. The value of this member is the actual value multiplying 100.
wRelativeHeight	WORD	Relative height, unit: cm.
wVerticalSpeed	WORD	Vertical speed, unit: cm/h.
byRes2	BYTE[]	Reserved field whose size is 160 bytes.

5.1.27 NET_DVR_GUARD_CFG

Structure about the configuration parameters of ANPR arming schedule.

Structure Definition

```
struct{
DWORD
                  dwSize;
NET_DVR_TIME_DETECTION
                           struAlarmSched[MAX_DAYS/*7*/][MAX_TIMESEGMENT_V30/*8*/];
NET_DVR_HANDLEEXCEPTION_V41 struHandleException;
DWORD
                  dwMaxRelRecordChanNum;
DWORD
                  dwRelRecordChanNum;
DWORD
                  dwRelRecordChan[MAX_CHANNUM_V30/*64*/];
NET_DVR_TIME_DETECTION
                           struHolidayTime[MAX_TIMESEGMENT_V30/*8*/];
BYTE
                byDirection;
BYTE
                byRes[87];
}NET_DVR_GUARD_CFG,*LPNET_DVR_GUARD_CFG;
```

Members

dwSize

Structure size

struAlarmSched

Arming schedule, 7 days for a week, maximum 8 time periods for a day, see details in the structure **NET DVR TIME DETECTION**.

struHandleException

Alarm linkage action, supports "center"-upload to center, see details in the structure **NET DVR HANDLEEXCEPTION V41**.

dwMaxRelRecordChanNum

Maximum number of triggered video channels (read only) that can be supported.

dwRelRecordChanNum

Actual number of triggered video channels that can be supported, that is, the number of channels in the current group.

dwRelRecordChan

Alarm triggered video channel No., E.g., if the value of **dwRecordChanNum** is 5, the values of **dwRelRecordChan** is between 0 and 4.

struHolidayTime

Holiday arming schedule, see details in the structure **NET_DVR_TIME_DETECTION** .

byDirection

Triggered direction: 0-reserved, 1-all, 2-forward, 3-backward.

byRes

Reserved, set to 0.

Remarks

- When the value of **dwMaxRelRecordChanNum** is larger than 64, the channels should be grouped, and maximum 64 channels can be in a group.
- The video channel No. is linked with the group No., e.g., if the group No. is 0, the channel No. is between 1 and 64; if the group No. is 1, the channel No. is between 65 and 128; if 0xffffffff appears, it indicates that the following channel No. is invalid.

5.1.28 NET DVR GUARD COND

Structure about the configuration conditions of ANPR arming schedule.

Structure Definition

```
struct{
    DWORD dwSize;
    DWORD dwChannel;
    BYTE byRelateType;
    BYTE byGroupNo;
    BYTE byRes[62];
}NET_DVR_GUARD_COND,*LPNET_DVR_GUARD_COND;
```

Members

dwSize

Structure size

dwChannel

Channel No.

byRelateType

Capture linkage mode: 0-invalid, 1-MPR mode (video triggered capture, for network camera only), 2-HVT mode

byGroupNo

Group No.

byRes

Reserved, set to 0.

5.1.29 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 0x08: trigger alarm output 0x10: send picture with JPEG format by email 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

Member	Data Type	Description
		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.
dwMaxAlarmOutChan nelNum	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.

5.1.30 NET_DVR_INIT_CFG_ABILITY

Initialization Capability Structure

Member	Data Type	Description
enumMaxLoginUsersN um	sersN 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, INIT_CFG_NUM_20480 = 20480 }INIT_CFG_MAX_NUM
enumMaxAlarmNum	m 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

5.1.31 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.

5.1.32 NET_DVR_LANE_PARAM_V41

Structure about the lane parameters.

Structure Definition

```
struct {
BYTE
            byRuleName[NAME_LEN];
BYTE
            byRuleID;
 BYTE
            byLaneType;
BYTE
            byTrafficState;
BYTE
            byLaneNo;
DWORD
               dwVaryType;
 DWORD
               dwTpsType;
 DWORD
              dwLaneVolume;
DWORD
               dwLaneVelocity;
DWORD
              dwTimeHeadway;
DWORD
               dwSpaceHeadway;
float
           fSpaceOccupyRation;
float
           fTimeOccupyRation;
DWORD
              dwLightVehicle;
DWORD
              dwMidVehicle;
DWORD
              dwHeavyVehicle;
NET_DVR_LANE_QUEUE struLaneQueue;
NET_VCA_POINT
                  struRuleLocation;
DWORD
              dwOversizeVehicle;
            byRes2[60];
}NET_DVR_LANE_PARAM_V41, *LPNET_DVR_LANE_PARAM_V41;
```

Members

byRuleName

Lane rule name.

byRuleID

Rule No., which is the subscript of the rule configuration structure ranging from 0 to 7.

byLaneType

Lane type, upward or downward.

byTrafficState

Lane status: 0-invalid, 1-clear, 2-crowded, 3-congestion.

byLaneNo

Lane No.

dwVaryType

Lane parameter change type.

dwTpsType

Data change type, which indicates valid data in the uploaded statistics.

dwLaneVolume

Traffic flow in the lane.

dwLaneVelocity

Speed in the lane, unit: kilometer.

dwTimeHeadway

Headway time, unit: second.

dwSpaceHeadway

Headway distance, unit: meter.

fSpaceOccupyRation

Lane occupation (percentage).

fTimeOccupyRation

Lane time occupation (percentage).

dwLightVehicle

Number of light-duty vehicles.

dwMidVehicle

Number of middle-sized vehicles.

dwHeavyVehicle

Number of heavy vehicles.

struLaneQueue

Parameters of queue on the lane, see details in the structure <u>NET_DVR_LANE_QUEUE</u>.

struRuleLocation

Center of the virtual rule frame, see details in the structure **NET VCA POINT**.

dwOversizeVehicle

Number of oversize vehicles.

byRes2

Reserved.

5.1.33 NET_DVR_LANE_QUEUE

Parameter Structure of Queue in Lane

Member	Data Type	Description
struHead	NET_VCA_POINT	Coordinate information of queue head.
struTail	NET_VCA_POINT	Coordinate information of queue tail.
dwLength	DWORD	Actual length of queue, unit: m, range: [0, 500].

5.1.34 NET_DVR_LLI_PARAM

Longitude and Latitude Parameter Structure

Member	Data Type	Description
fSec	float	Second, range: [0.000000, 60.000000].
byDegree	ВУТЕ	Degree, range of latitude: [0, 90], range of longitude: [0, 180].
byMinute	ВҮТЕ	Minute, range: [0, 59].
byRes	BYTE[]	Reserved field whose size is 6 bytes.

5.1.35 NET_DVR_LLPOS_PARAM

Position Information (Longitude and Latitude) Structure

Member	Data Type	Description
byLatitudeType	ВҮТЕ	Latitude type: 0-north, 1-south.
byLongitudeType	ВҮТЕ	Longitude type: 0-east, 1-west.
byRes1	BYTE[]	Reserved field whose size is 2 bytes.
struLatitude	NET_DVR_LLI_PARAM	Latitude information.
struLongitude	NET_DVR_LLI_PARAM	Longitude information.
byRes	BYTE[]	Reserved whose size is 16 bytes.

5.1.36 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 <u>NET_DVR_SetSDKInitCfg</u> to specify the path of HCNetSDKCom folder to make sure the component libraries are loaded normally.

5.1.37 NET_DVR_MANUALSNAP

Structure about manual capture parameters

Structure Definition

```
struct{
BYTE byOSDEnable;
BYTE byLaneNo;
BYTE byRes[22];
}NET_DVR_MANUALSNAP, *LPNET_DVR_MANUALSNAP;
```

Members

byOSDEnable

Whether to disable overlaying OSD information on the captured picture: 0-no (default), 1-yes

byLaneNo

Lane No., the value is ranging from 1 to 6 and the default value is 1

byRes

Reserved, set to 0

5.1.38 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, 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	ВУТЕ	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

5.1.39 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	ВУТЕ	Whether to enable DHCP: 0xff- invalid; 0-disable, 1-enable
byIPv6Mode	ВУТЕ	Allocation mode of IPv6 address: 0-by router advertisement, 1-by manual setting, 2-by enabling DHCP allocation.
struDnsServer1lpAddr	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
bylpResolver	Array of BYTE	IP resolver domain name or IP address (if the port No. of device is 8000, the domain name is not supported).
wlpResolverPort	WORD	IP resolver port No.
wHttpPortNo	WORD	HTTP port No.
struMulticastIpAddr	NET_DVR_IPADDR_UN ION	Multicast group address
struGatewayIpAddr	NET_DVR_IPADDR_UN ION	Gateway address
struPPPoE	NET_DVR_PPPOECFG	PPPoE parameters
by Enable Private Multic ast Discovery	ВУТЕ	Private multicast search (SADP): 0-default, 1-enable, 2-disable

Member	Data Type	Description
byEnableOnvifMulticas tDiscovery	ВУТЕ	Onvif multicast search (SADP): 0-default, 1-enable, 2-disable
wAlarmHost2IpPort	WORD	Port No. of listening host 2.
struAlarmHost2IpAddr	NET_DVR_IPADDR_UN ION	IP address of listening host 2
byEnableDNS	ВУТЕ	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**.

5.1.40 NET_DVR_PLATE_INFO

Structure About the Captured License Plate Information

Member	Data Type	Description
byPlateType	ВУТЕ	License plate type.
byColor	ВУТЕ	License plate color. For details, refer to <u>VCA_PLATE_COLOR</u> .
byBright	ВУТЕ	License plate brightness.
byLicenseLen	ВУТЕ	Number of characters on the license plate.
byEntireBelieve	ВУТЕ	License plate confidence in percentage, which is between 0 and 100.
byRegion	ВУТЕ	Region index: 0-reserved, 1-Europe, 2-Russian, 3-Europe and Russian (EU&CIS), 4-Middle East, 5-Asia-Pacific Region (APAC), 6-Africa and America, 0xff-all

Member	Data Type	Description
byCountry	ВҮТЕ	Country/region index. For details, refer to COUNTRY_INDEX. Note The value "COUNTRY_ALL" (0xff, it indicates all countries) is not supported.
byArea	ВУТЕ	Area in each country/region. The enumeration of areas in The United Arab Emirates is as follows:
		enum EMI_AREA{ EMI_AREA_UNKNOWN = 0,
byPlateSize	ВУТЕ	License plate size: 0-unknown, 1-long, 2-short (for the Middle East).
byAddInfoFlag	ВУТЕ	Additional information flag (whether the structure <u>NET_DVR_VEHICLE_ADDINFO</u> is valid): 0-no, 1-yes.
wCRIndex	WORD	Country/region index, which covers byCountry and can replace it. The wCRIndex is preferred over byCountry . If wCRIndex is larger than 256, you should set byCountry to "0xfd" (invalid).
byRes	BYTE[]	Reserved field whose size is 4 bytes.
pAddInfoBuffer	BYTE*	Additional information pointer which points to the structure NET_DVR_VEHICLE_ADDINFO .

Member	Data Type	Description
		The size of this member is 8 bytes for 64-bit Windows Linux operation systems. For other operating systems, its size is 4 bytes.
byRes2	BYTE[]	Reserved field whose size is 4 bytes. Note This member is valid for operation systems except 64-bit Windows and Linux.
sPlateCategory	char	Additional information on license plates in the Middle East, whose size 8 bytes.
dwXmlLen	DWORD	Length of the alarm information in XML format.
pXmlBuf	char*	Pointer of the alarm information in XML format, which points to the alarm details XML_EventNotificationAlert_ANPR. Note This member is valid when ICommand in the callback function MSGCallBack of NET_DVR_SetDVRMessageCallBack_V50 is "COMM_ITS_PLATE_RESULT" (0x3050).
struPlateRect	NET_VCA_RECT	License plate position.
sLicense	char[]	License plate number whose size is 16 bytes.
byBelieve	BYTE[]	Confidence of each recognized character, whose size 16 bytes. For example, if the license plate number is "ZA12345" and the confidence of each character is 20, 30, 40, 50, 60, 60, and 70, it indicates that the correctness of character "Z" is 20%, the correctness of "A" is 30%, and so on.

5.1.41 NET_DVR_PLATE_RESULT

ANPR result structure

Structure Definition

```
struct{
DWORD
                 dwSize:
BYTE
               byResultType;
BYTE
               byChanIndex;
WORD
                wAlarmRecordID;
DWORD
                 dwRelativeTime;
BYTE
               byAbsTime[32];
DWORD
                 dwPicLen;
DWORD
                 dwPicPlateLen;
DWORD
                 dwVideoLen;
BYTE
               byTrafficLight;
BYTE
               byPicNum;
BYTE
               byDriveChan;
BYTE
               byVehicleType;
DWORD
                 dwBinPicLen;
DWORD
                 dwCarPicLen;
DWORD
                 dwFarCarPicLen;
BYTE
               *pBuffer3;
               *pBuffer4;
BYTE
BYTE
               *pBuffer5;
BYTE
               byRelaLaneDirectionType;
BYTE
               byRes3[7];
NET DVR PLATE INFO
                       struPlateInfo;
NET_DVR_VEHICLE_INFO struVehicleInfo;
BYTE
               *pBuffer1;
BYTE
               *pBuffer2;
}NET DVR PLATE RESULT, *LPNET DVR PLATE RESULT;
```

Members

dwSize

Structure size

byResultType

Recognition type: 0-recognize via video, 1- recognize via picture, 2-continuous recorded video (support search)

byChanIndex

Lane No.

wAlarmRecordID

Alarm video ID (for video search only), and this parameter is valid only when **byResultType** is "2".

dwRelativeTime

Time of UTC ± 00:00. (reserved)

byAbsTime

Local time, accurate to millisecond, format: yyyymmddhhmmssxxx, e.g. 20090810235959999.

dwPicLen

Picture length (close-up picture).

dwPicPlateLen

Length of license plate thumbnail (colorful picture).

dwVideoLen

Video size.

byTrafficLight

0-capture without red or green light, 1-capture with green light, 2-capture with red light.

byPicNum

No. of continuously captured picture.

byDriveChan

Triggered lane No.

byVehicleType

Vehicle type, see details in VTR RESULT.

dwBinPicLen

Size of binary picture (for iDS-65 series only).

dwCarPicLen

Size of original vehicle picture (for iDS-65 series only).

dwFarCarPicLen

Size of long-shot picture (for iDS-65 series only).

pBuffer3

Binary picture of license plate (for iDS-65 series only).

pBuffer4

Original vehicle picture (for iDS-65 series only).

pBuffer5

Long-shot picture (for iDS-65 series only).

byRelaLaneDirectionType

Direction of linked lane, see details in ITC RELA LANE DIRECTION TYPE.

byRes3

Reserved.

struPlateInfo

License plate information.

struVehicleInfo

Vehicle information

pBuffer1

For close-up picture information, the size of this buffer equals to the value of **dwPicLen**; for video information, the size of this buffer equals to the value of **dwVideoLen**.

pBuffer2

For license plate thumbnail information, the size of this buffer equals to the value of **dwPicPlateLen**.

Remarks

The uploaded picture or video information can be distinguished according to the information length (if the length is 0). The picture data includes scene picture and license plate thumbnail. If the video size is 0xffffffff, it indicates that the video is exception and only the alarm information (without video) will be uploaded, and the video pointer is NULL.

For iDS-65 series devices, the manually captured picture can only be uploaded to **pBuffer1** and **pBuffer2**.

If the **byResultType** is 2, the **wAlarmRecordID** can be set as the search conditions for alarm video search

5.1.42 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_UN ION	PPPoE IP address

5.1.43 NET_DVR_PRESETCHAN_INFO

Preset Information Structure

Member	Data Type	Description
dwEnablePresetChan	DWORD	Channel that called preset.
dwPresetPointNo	DWORD	Called preset No., 0xfffffff-not call preset.

5.1.44 NET_DVR_PTZPOS

PTZ position parameter structure.

Structure Definition

```
struct{
WORD wAction;
WORD wPanPos;
WORD wTiltPos;
WORD wZoomPos;
}NET_DVR_PTZPOS, *LPNET_DVR_PTZPOS;
```

Members

wAction

Operation type, it is valid only when setting parameters. 1-locate PTZ parameter, 2-locate Pan parameter, 3-locate Tilt parameter, 4-locate Zoom parameter, 5-locate Pan and Tilt parameter.

wPanPos

Pan parameter (horizontal)

wTiltPos

Tilt parameter (vertical)

wZoomPos

Zoom parameter (zoom in or out)

Remarks

The actual PTZ position value is the one-tenth of the received hexadecimal value. If the obtained Pan value is 0x1750, the actual Pan value is 175 degree; if the obtained Tilt value is 0x0789, the actual Tilt value is 78.9 degree; if the obtained Zoom value is 0x1100, the actual Zoom value is 110.

5.1.45 NET_DVR_PTZTRACKCHAN_INFO

Pattern Information Structure

Member	Data Type	Description
dwEnablePtzTrackChan	DWORD	Channel that called the pattern.
dwPtzTrackNo	DWORD	Called pattern No., 0xfffffff-invalid.

5.1.46 NET_DVR_SCENE_INFO

Alarm scene information structure.

Structure Definition

Members

dwSceneID

Scene ID, 0 means that this scene is invalid.

bySceneName

Scene name.

byDirection

Detection direction: 1-upward, 2-downward, 3-bidirectional, 4-westward, 5-northward, 6-eastward, 7-southward, 8-other.

byRes1

Reserved.

struPtzPos

PTZ coordinates, see details in the structure.

byRes2

Reserved.

5.1.47 NET_DVR_SCHEDTIME

Structure About Start and End Time Parameters

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

5.1.48 NET_DVR_SETUPALARM_PARAM_V50

Arming Parameter Structure

Member	Data Type	Description
dwSize	DWORD	Structure size.
byLevel	ВУТЕ	Arming priority: 0-high, 1-medium, 2-low.
byAlarmInfoType	ВУТЕ	Intelligent traffic alarm information type: 0-old (NET_DVR_PLATE_RESULT),1-new (NET_ITS_PLATE_RESULT).
byRetAlarmTypeV40	ВУТЕ	O-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	ВҮТЕ	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	ВУТЕ	VQD alarm types: 0-COMM_ALARM_VQD (alarm information structure: NET_DVR_VQD_DIAGNOSE_INFO), 1-COMM_ALARM_VQD_EX

Member	Data Type	Description
		(alarm information structure: NET_DVR_VQD_ ALARM, including camera information and captured pictures)
byFaceAlarmDetection	ВУТЕ	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	ВУТЕ	 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	ВУТЕ	 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	ВҮТЕ	Task No.
byDeployType	ВҮТЕ	Arming type: 0-arm via client software, 1-real-time arming.
bySubScription	ВҮТЕ	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	ВҮТЕ	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	ВҮТЕ	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.

5.1.49 NET_DVR_STD_ABILITY

Input and Output Parameter Structure for Getting Capabilities

Member	Data Type	Description
IpCondBuffer	LPVOID	Condition parameters (ASCII character format), e.g., the channel No., it can be set to "null".
dwCondSize	DWORD	Buffer size of condition parameters.
IpOutBuffer	LPVOID	Output parameters buffer (the parameter is returned in the message with XML format), it cannot be set to "null.
dwOutSize	DWORD	Output buffer size.
IpStatusBuffer	LPVOID	Get the returned status parameters (XML_ResponseStatus) when getting capabilities failed. It can be set to null.
dwStatusSize	DWORD	Status buffer size.
dwRetSize	DWORD	Obtained data size (if the capability is obtained, the value refers to the size of IpOutBuffer ; if getting failed, the value refers to the size of IpStatusBuffer).
byRes	Array [BYTE]	Reserved. The maximum size is 32 bytes.

Remarks

For different capability types (which depend on the parameter **dwAbilityType** in the API <u>NET_DVR_GetSTDAbility</u>), the condition parameter **lpCondBuffer** and output parameter **lpOutBuffer** are different. For details, refer to the typical applications.

5.1.50 NET_DVR_STD_CONFIG

Structure About Configuring Input and Output Parameters

Member	Data Type	Description
IpCondBuffer	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
IpOutBuffer	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 IpXmlBuffer .
byDataType	ВУТЕ	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.

5.1.51 NET_DVR_STOP_LINE_PARAM

Structure about stop line information.

Structure Definition

```
struct{
BYTE byStatus;
BYTE byRes[39];
}NET_DVR_STOP_LINE_PARAM, *LPNET_DVR_STOP_LINE_PARAM;
```

Members

byStatus

Stop line status: 0-unknown, 1-entered, 1-exited.

byRes

Reserved, set to 0.

5.1.52 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

5.1.53 NET_DVR_TIME_EX

Extended Time Parameter Structure

Member	Data Type	Description
wYear	WORD	Year
byMonth	ВУТЕ	Month
byDay	ВУТЕ	Day
byHour	BYTE	Hour
byMinute	ВУТЕ	Minute
bySecond	BYTE	Second
byRes	ВУТЕ	Reserved.

5.1.54 NET_DVR_TIME_V30

Time Parameter Structure

Member	Data Type	Description
wYear	WORD	Year.
byMonth	ВУТЕ	Month.
byDay	ВУТЕ	Day.
byHour	ВҮТЕ	Hour.
byMinute	ВҮТЕ	Minute.
bySecond	ВУТЕ	Second.
byISO8601	ВҮТЕ	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.
wMilliSec	WORD	Millisecond.
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 bylSO8601 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".

5.1.55 NET_DVR_TIME_V50

Time parameters structure.

Structure Definition

struct{
WORD **wYear**;

```
BYTE
          byMonth;
BYTE
          byDay;
BYTE
          byHour;
BYTE
          byMinute;
BYTE
          bySecond;
BYTE
          byISO8601;
WORD
           wMilliSec;
signed char cTimeDifferenceH;
signed char cTimeDifferenceM;
}NET_DVR_TIME_V50, *LPNET_DVR_TIME_V50;
```

Members

wYear

Year

byMonth

Month

byDay

Day

byHour

Hour

byMinute

Minute

bySecond

Second

byISO8601

ISO8601 format, whether time differences are valid, 0-no, it is local time, 1-yes

wMillisecond

Millisecond, it is 0 by default

cTimeDifferenceH

Time offset (hours) from UTC, e.g., -12 ... +14, positive offset indicates eastern time zone

cTimeDifferenceM

Time offset (minutes) from UTC, e.g., -30, 0, 30, 45, positive offset indicates eastern time zone

5.1.56 NET_DVR_TIME_DETECTION

ANPR arming schedule structure

Structure Definition

Members

struSchedTime

Arming schedule, start time and end time parameters, see details in the structure.

byDetSceneID

Detection scene No., 0-invalid, other values: [1,4]. For network camera, the default value of this parameter is 0.

byRes

Reserved, set to 0.

See Also

5.1.57 NET_DVR_TFS_ALARM

Structure about traffic law enforcement alarm.

Structure Definition

```
struct {
DWORD
                dwSize;
DWORD
                dwRelativeTime;
DWORD
                dwAbsTime;
DWORD
                dwlllegalType;
DWORD
                dwlllegalDuration;
              byMonitoringSiteID[MONITORSITE ID LEN];
BYTE
              byDeviceID[DEVICE ID LEN];
BYTE
NET VCA DEV INFO
                    struDevInfo;
NET_DVR_SCENE_INFO struSceneInfo;
NET_DVR_TIME_EX struBeginRecTime;
NET DVR TIME EX
                     struEndRecTime;
NET_DVR_AID_INFO struAlDInfo;
NET_DVR_PLATE_INFO struPlateInfo;
NET_DVR_VEHICLE_INFO struVehicleInfo;
DWORD
                dwPicNum;
NET ITS PICTURE INFO struPicInfo[8];
              bySpecificVehicleType;
BYTE
              byLaneNo;
BYTE
```

```
wDevInfolvmsChannelEx;
WORD
 NET_DVR_TIME_V50
                       struTime;
 DWORD
                 dwSerialNo;
               bvVehicleAttribute:
 BYTE
 BYTE
               byPilotSafebelt;
 BYTE
               byCopilotSafebelt;
 BYTE
               byPilotSunVisor;
               byCopilotSunVisor;
 BYTE
               byPilotCall;
 BYTE
               byRes2[2];
 BYTE
 BYTE
               byIllegalCode[ILLEGAL_LEN/*32*/];
                 wCountry;
WORD
 BYTE
               byRegion;
 BYTE
               byCrossLine;
               byParkingSerialNO[SERIAL_NO_LEN/*16*/];
 BYTE
               byCrossSpaces;
 BYTE
               byAngledParking;
 BYTE
 BYTE
               byAlarmValidity;
               byDoorsStatus;
 BYTE
DWORD
                 dwXmlLen;
#if (defined(OS_WINDOWS64) | | defined(OS_POSIX64))//The pointer in Windows operating system and Linux
operating system with 64-bit is 8 bytes
char
              *pXmlBuf;
#else
               *pXmlBuf;
char
 BYTE
               byRes3[4];
#endif
 BYTE
               byVehicleHeadTailStatus;
BYTE
               byRes[31];
}NET_DVR_TFS_ALARM,*LPNET_DVR_TFS_ALARM;
```

Members

dwSize

Structure size.

dwRelativeTime

Time of UTC \pm 00:00.

dwAbsTime

Local time.

dwlllegalType

Traffic violation type. Either **bylllegalCode** or **illegalType** of **pXmlBuf** will be valid when this node is set to 0xffffffff.

dwlllegalDuration

Duration of traffic violation, unit: second.

byMonitoringSiteID

Camera No. (intersection No., internal No.)

byDeviceID

Device No.

struDevInfo

Camera information, see details in the structure **NET_VCA_DEV_INFO**.

struSceneInfo

Scene information, see details in the structure **NET_DVR SCENE INFO**.

struBeginRecTime

Recording start time, see details in the structure **NET_DVR_TIME_EX**.

struEndRecTime

Recording end time, see details in the structure <u>NET_DVR_TIME_EX</u> .

struAlDInfo

Traffic incident information, see details in the structure **NET_DVR_AID_INFO**.

struPlateInfo

License plate information, see details in the structure **NET_DVR_PLATE_INFO**.

struVehicleInfo

Vehicle information, see details in the structure **NET_DVR_VEHICLE_INFO**.

dwPicNum

Number of pictures.

struPicInfo

Picture information. Up to 8 pictures are supported, see details in the structure **NET ITS PICTURE INFO** .

bySpecificVehicleType

Vehicle type.

byLaneNo

Linked lane No.

wDevInfolvmsChannelEx

Extension of device channel No., which is compatible with **bylvmsChannel** in **NET_VCA_DEV_INFO**. The maximum length is 255.

struTime

Current time of manual tracking and location, see details in the structure **NET_DVR_TIME_V50**.

dwSerialNo

Serial No.

byVehicleAttribute

Vehicle features: 0-normal vehicle, bit1-yellow label vehicle, bit2-vehicle with hazardous goods.

bvPilotSafebelt

Whether the driver has buckled up: 0-unknown, 1-yes, 2-no.

byCopilotSafebelt

Whether the front passenger has buckled up: 0-unknown, 1-yes, 2-no.

byPilotSunVisor

Whether the driver's sun visor is enabled: 0-unknown, 1-no, 2-yes.

byCopilotSunVisor

Whether the front passenger's sun visor is enabled: 0-unknown, 1-no, 2-yes.

byPilotCall

Whether the driver is making a call: 0-unknown, 1-no, 2-yes.

byRes2

Reserved.

bylllegalCode

Extended illegal action code. This node is valid when is dwillegalType is 0xffffffff.

wCountry

Country index No.

byRegion

Region index No.

byCrossLine

Whether the vehicle is parking on the lane line (for parallel parking): 0-unknown, 1-no, 2-yes.

byParkingSerialNO

Parking space No.

byCrossSpaces

Whether the vehicle is parking across multiple spaces (for parallel parking): 0-unknown, 1-no, 2-yes.

byAngledParking

Whether the vehicle inclined to park (for parallel parking): 0-unknown, 1-no, 2-yes.

byAlarmValidity

Alarm confidence ranging from 0 to 100.

byDoorsStatus

Vehicle door status: 0-closed, 1-open.

dwXmlLen

Length of alarm information in XML format.

pXmlBuf

Pointer of alarm information in XML format.

byRes3

Reserved.

byVehicleHeadTailStatus

Vehicle head or tail status: 0-reserved, 1-vehicle head, 2-vehicle tail

byRes[45]

Reserved.

5.1.58 NET_DVR_TPS_ADDINFO

Structure about additional information of traffic data collection.

Structure Definition

```
struct{

NET_DVR_LLPOS_PARAM struFirstLLPos;

NET_DVR_LLPOS_PARAM struLastLLPos;

char sLicense[MAX_LICENSE_LEN/*16*/];

NET_DVR_TURN_DIRECTION_PARAM struTurnDirection;

NET_DVR_STOP_LINE_PARAM struStopLine;

BYTE byRes[884];

}NET_DVR_TPS_ADDINFO, *LPNET_DVR_TPS_ADDINFO;
```

Members

struFirstLLPos

Position information (latitude and longitude) of the first vehicle in the traffic flow. This member is returned only when **byLaneState** is 3 and **byQueueLen** is larger than 0 in the structure **NET DVR TPS PARAM**.

struLastLLPos

Position information (latitude and longitude) of the last vehicle in the traffic flow. This member is returned only when **byLaneState** is 3 and **byQueueLen** is larger than 0 in the structure **NET DVR TPS PARAM**.

sLicense

License plate number.

struTurnDirection

Traffic flow turning information, see details in the structure

NET DVR TURN DIRECTION PARAM.

struStopLine

Stop line information, see details in the structure **NET DVR STOP LINE PARAM**.

byRes

Reserved, set to 0.

5.1.59 NET_DVR_TPS_ALARM_V41

Structure about traffic data collection alarm.

Structure Definition

```
struct {
DWORD
               dwSize;
DWORD
               dwRelativeTime;
DWORD
               dwAbsTime;
NET_VCA_DEV_INFO struDevInfo;
NET_DVR_TPS_INFO_V41 struTPSInfo;
             byMonitoringSiteID[MONITORSITE ID LEN/*48*/];
BYTE
             byDeviceID[DEVICE_ID_LEN/*48*/];
               dwStartTime;
DWORD
DWORD
               dwStopTime;
             byRes[24];
}NET_DVR_TPS_ALARM_V41,*LPNET_DVR_TPS_ALARM_V41;
```

Members

dwSize

Structure size.

dwRelativeTime

Time of UTC ± 00:00.

dwAbsTime

Local time.

struDevInfo

Camera information, see details in the structure NET VCA DEV INFO.

struTPSInfo

Traffic data collection information, see details in the structure NET_DVR_TPS_INFO_V41 .

byMonitoringSiteID

Camera No. (intersection No., internal No.)

byDeviceID

Device No.

dwStartTime

Data collection start time.

dwStopTime

Data collection end time.

byRes

Reserved.

5.1.60 NET_DVR_TPS_INFO_V41

Structure about traffic data collection information.

Structure Definition

Members

dwLanNum

Number of lanes.

struLaneParam

Rule for the lane, see details in the structure <u>NET_DVR_LANE_PARAM_V41</u>.

dwSceneID

Scene ID.

byRes

Reserved.

5.1.61 NET_DVR_TPS_LANE_PARAM

Structure about the traffic statistics information of a single lane.

Structure Definition

```
struct{
BYTE byLane;
BYTE bySpeed;
WORD wArrivalFlow;
DWORD dwLightVehicle;
DWORD dwMidVehicle;
DWORD dwHeavyVehicle;
DWORD dwTimeHeadway;
DWORD fSpaceHeadway;
float fSpaceOccupyRation;
float fTimeOccupyRation;
BYTE byStoppingTimes;
BYTE byQueueLen;
```

```
BYTE byFlag;
BYTE byVehicelNum;
WORD wDelay;
BYTE byRes1[6];
DWORD dwNonMotor;
}NET_DVR_TPS_LANE_PARAM, *LPNET_DVR_TPS_LANE_PARAM;
```

Members

byLane

Lane No.

bySpeed

Average speed of passing vehicles in the lane.

wArrivalFlow

Arrived traffic flow.

dwLightVehicle

Number of small-sized vehicles.

dwMidVehicle

Number of middle-sized vehicles.

dwHeavyVehicle

Number of large-sized vehicles.

dwTimeHeadway

Time headway, unit: second.

dwSpaceHeadway

Space headway, unit: m.

fSpaceOccupyRation

Space occupancy (%). The value is the floating-point number multiplying 1000.

fTimeOccupyRation

Time occupancy (%). The value is the floating-point number multiplying 1000.

byStoppingTimes

Average parking times.

byQueueLen

Queue length in the congestion status, unit: m.

byFlag

Statistics uploading mark: 0-statistics in the time of T1, 1-statistics in the time of T2.

byVehicelNum

Number of vehicles in the region.

wDelay

Average delay.

byRes1

Reserved.

dwNonMotor

Number of non-motor vehicles.

5.1.62 NET_DVR_TPS_PARAM

Structure about real-time traffic data information.

Structure Definition

```
struct{
BYTE byStart;
BYTE byCMD;
WORD wSpaceHeadway;
WORD wDeviceID;
WORD wDataLen;
BYTE byLane;
BYTE bySpeed;
BYTE byLaneState;
BYTE byQueueLen;
WORD wLoopState;
WORD wStateMask;
DWORD dwDownwardFlow;
DWORD dwUpwardFlow;
BYTE byJamLevel;
BYTE byVehicleDirection;
BYTE byJamFlow;
BYTE byChannelizationLane;
BYTE byVehicleType;
BYTE byRes1[5];
WORD wTimeHeadway;
}NET DVR TPS PARAM, *LPNET DVR TPS PARAM;
```

Members

byStart

Start code.

byCMD

Command No.: 01-enter, 02-exit, 03-congestion status (only **byLaneState** and **byQueueLen** are valid), 04-multi-coil status (only **wLoopState** and **wStateMask** are valid, and it indicates the vehicle passing status of multiple coils in the lane **byLane**), 05-turning status (**struTurnDirection** in <u>NET_DVR_TPS_ADDINFO</u> is valid), 06-stop line information (**struStopLine** in <u>NET_DVR_TPS_ADDINFO</u> is valid).

wSpaceHeadway

Space headway, unit: m.

wDeviceID

Device ID.

wDataLen

Data size.

byLane

Lane No.

bySpeed

Vehicle speed, unit: km/h.

byLaneState

Lane status: 0-unknown, 1-smooth, 2-crowded, 3-congestion.

byQueueLen

Queue length in congestion status, unit: m.

wLoopState

Coil status: 1-entered, 2-exited. The bit No. corresponds to the status of that coil No. The longer distance between the lens and the coil indicates that the coil No. is larger. The lane No. will be parsed firstly and then the coil No. will be parsed. For a single lane, the coil No. is unique.

wStateMask

Coil status mask: 1-wLoopState is valid, 0-wLoopState is invalid.

dwDownwardFlow

Traffic flow from top to bottom on the current lane.

dwUpwardFlow

Traffic flow from bottom to top on the current lane.

byJamFlow

Congestion level: 1-light, 2-medium, 3-serious. This member is valid when byLaneState is 3.

byVehicleDirection

Vehicle driving direction: 0-unknown, 1-from top to bottom, 2-from bottom to top.

byJamFlow

Newly added traffic flow during congestion. The accumulated traffic flow will be uploaded every time there is a new vehicle added.

byChannelizationLane

Channelized lane No. Channelization refers to the change status of the number of lanes, and generally it is the number of lanes in the intersection.

byVehicleType

Vehicle type recognition: 0-unknown, 1-large-sized bus, 2-large-sized cargo truck, 3-small sedan, 4-non-motor vehicle.

byRes1

Reserved, set to 0.

wTimeHeadway

Time headway, unit: second.

5.1.63 NET_DVR_TPS_REAL_TIME_INFO

Structure about real-time passing vehicle data.

Structure Definition

```
struct{
HPR_UINT32
                   dwSize;
HPR_UINT32
                   dwChan;
NET DVR TIME V30 struTime;
NET DVR TPS PARAM struTPSRealTimeInfo;
#if (defined(OS WINDOWS64) | | defined(OS POSIX64))//The pointer in Windows operating system and Linux
operating system with 64-bit is 8 bytes
HPR UINT8
                   *pAddInfoBuffer;
#else
HPR_UINT8
                   *pAddInfoBuffer;
HPR UINT8
                   byRes2[4];
#endif
HPR UINT8
                   byAddInfoFlag;
                   byRes1[3];
HPR_UINT8
HPR_UINT32
                   dwDeviceIDEx;
HPR UINT8
                   byRes[8];
}NET_DVR_TPS_REAL_TIME_INFO, *LPNET_DVR_TPS_REAL_TIME_INFO;
```

Members

dwSize

Structure Size.

dwChan

Channel No.

struTime

Detection time, see details in the structure <u>NET_DVR_TIME_V30</u>.

struTPSRealTimeInfo

Information about real-time traffic statistics, see details in the structure

```
NET DVR TPS PARAM.
```

pAddInfoBuffer

Additional information pointer which points to the structure **NET DVR TPS ADDINFO**.

byRes2

Reserved.

byAddInfoFlag

Additional information (<u>NET_DVR_TPS_ADDINFO</u>) mark: 0-no additional information, 1-contain additional information.

byRes1

Reserved.

dwDeviceIDEx

Extension of the device ID.

byRes

Reserved.

5.1.64 NET_DVR_TPS_STATISTICS_INFO

Structure about the passing vehicle statistics.

Structure Definition

```
struct{
DWORD
                     dwSize;
DWORD
                     dwChan;
NET_DVR_TPS_STATISTICS_PARAM struTPSStatisticsInfo;
DWORD
                     dwJsonLen;
#if (defined(OS_WINDOWS64) || defined(OS_POSIX64))//The pointer in Windows operating system and Linux
operating system with 64-bit is 8 bytes
BYTE
                   *pJsonBuf;
#else
                   *pJsonBuf;
BYTE
BYTE
                   byRes2[4];
#endif
BYTE
                   byJsonInfoFlag;
                   byRes[115];
BYTE
}NET_DVR_TPS_STATISTICS_INFO, *LPNET_DVR_TPS_STATISTICS_INFO;
```

Members

dwSize

Structure Size.

dwChan

Channel No.

struTPSStatisticsInfo

Traffic statistics information, see details in the structure **NET_DVR_TPS_STATISTICS_PARAM** .

dwJsonLen

Length of the alarm information in JSON format.

pJsonBuf

Pointer of the alarm information in JSON format (JSON EventNotificationAlert TrafficStatisticsAlarmMsq).

byRes2

Reserved.

byJsonInfoFlag

Whether there is data transmitted in JSON format: 0-no, 1-yes.

byRes

Reserved.

5.1.65 NET_DVR_TPS_STATISTICS_PARAM

Traffic statistics information structure.

Structure Definition

```
struct{
BYTE
               byStart;
BYTE
               byCMD;
               byRes[2];
BYTE
WORD
                wDeviceID;
                wDataLen;
WORD
BYTE
               byTotalLaneNum;
BYTE
              byRes2[3];
DWORD
                 dwDeviceIDEx;
BYTE
              byRes1[8];
NET DVR TIME V30
                      struStartTime;
DWORD
                 dwSamplePeriod;
NET DVR TPS LANE PARAM struLaneParam[MAX TPS RULE/*8*/];
NET DVR TPS STATISTICS PARAM, *LPNET DVR TPS STATISTICS PARAM;
```

Members

byStart

Start code.

byCMD

Command No.: 01-enter, 02-exit, 03-congestion (only the **byLaneState** and **byQueueLen** are valid).

byRes

Reserved.

wDeviceID

Device ID.

wDataLen

Data size.

byTotalLaneNum

Number of valid lanes.

byRes2

Reserved.

dwDeviceIDEx

Extension of the device ID.

byRes1

Reserved.

struStartTime

Start time of statistics, see details in the structure **NET_DVR_TIME_V30**.

dwSamplePeriod

Statistics time period, unit: second.

struLaneParam

Traffic statistics information of each lane, see details in the structure **NET_DVR_TPS_LANE_PARAM**.

5.1.66 NET_DVR_TRIGGER_COND

Structure about the configuration conditions of triggering mode.

Structure Definition

```
struct{
    DWORD dwSize;
    DWORD dwChannel;
    DWORD dwtriggerMode;
    BYTE byDetSceneID;
    BYTE byRes[63];
}NET_DVR_TRIGGER_COND,*LPNET_DVR_TRIGGER_COND;
```

Members

dwSize

Structure size

dwChannel

Channel No.

dwTriggerMode

Triggering mode, see details in ITC TRIGGERMODE TYPE

byDetSceneID

Detection scene No.: 0-invalid, other values: [1,4].

byRes

Reserved, set to 0.

5.1.67 NET_DVR_TURN_DIRECTION_PARAM

Structure about traffic flow turning information.

Structure Definition

```
struct{

BYTE byLine;

BYTE byStatus;

BYTE byRes[38];

}NET_DVR_TURN_DIRECTION_PARAM, *LPNET_DVR_TURN_DIRECTION_PARAM;
```

Members

byLine

Turning line No.

byStatus

Turning line status: 0-unknown, 1-entered, 2-exited.

byRes

Reserved, set to 0.

5.1.68 NET_DVR_USER_LOGIN_INFO

Structure About Login Parameters

Member	Data Type	Description
sDeviceAddress	char	Device IP address, or domain name.
byUseTransport	ВУТЕ	Enable capability transmission or not: 0-no (default), 1-yes.

Member	Data Type	Description
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	<u>fLoginResultCallBack</u>	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	ВУТЕ	Proxy server type: 0-no proxy, 1-standard proxy, 2-EHome proxy.
byUseUTCTime	ВУТЕ	0-not convert (default), 1-input or output UTC time, 2-input or output local time.
byLoginMode	ВҮТЕ	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	ВУТЕ	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	ВУТЕ	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); 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.

5.1.69 NET_DVR_VEHICLE_ADDINFO

Structure about Additional Vehicle Information

Member	Data Type	Description
struLLPos	NET_DVR_LLPOS_PARAM	Longitude and latitude information of the vehicle.
sVehicleNo	char[]	Vehicle ID whose size is 64 bytes.
by Vehicle Monitor TaskID	BYTE[]	Intelligent vehicle arming task ID whose size is 64 bytes. The ID is applied to the device by the upper layer when the task is created.
byUUID	BYTE[]	UUID whose size is 64 bytes. This member is used to link the same capture across multiple servers.
byRes	BYTE[]	Reserved field whose size is 832 bytes.

5.1.70 NET_DVR_VEHICLE_INFO

Vehicle information structure

Structure Definition

```
struct{
DWORD dwIndex;
BYTE byVehicleType;
BYTE byColorDepth;
BYTE
       byColor;
       byRaderState;
BYTE
WORD wSpeed;
WORD wLength;
BYTE
       bylllegalType;
BYTE
       byVehicleLogoRecog;
BYTE
       byVehicleSubLogoRecog;
BYTE
       byVehicleModel;
BYTE
       byCustomInfo[16];
WORD wVehicleLogoRecog;
```

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```
BYTE bylsParking;
BYTE byRes;
DWORD dwParkingTime;
BYTE byBelieve;
BYTE byRes3[7];
}NET_DVR_VEHICLE_INFO, *LPNET_DVR_VEHICLE_INFO;
```

Members

dwIndex

Vehicle No.

byVehicleType

Vehicle type: 0-others, 1-small-sized vehicle, 2-oversized vehicle, 3-pedestrian, 4-two-wheel vehicle, 5-three-wheel vehicle, 6-motor vehicle

byColorDepth

Vehicle color depth: 0-dark color, 1-light color

byColor

Vehicle color: 0-other, 1-white, 2-silver, 3-gray, 4-black, 5-red, 6-deep blue, 7-blue, 8-yellow, 9-green, 10-brown, 11-pink, 12-purple, 13-dark gray, 14-cyan, 0xff-unkonwn

byRaderState

Radar status: 0-normal, 1-fault, 2-keeps sending same speed, 3-no data sent, 4-the sent radar data is too large or too small.

wSpeed

Vehicle speed, unit: km/h

wLength

Vehicle length

bylllegalType

0-Normal, 1-Low Speed, 2-Overspeed, 3-Wrong-Way Driving, 4-Rad Light Running, 5-Driving on Lane Line, 6-Driving in Wrong Lane at Intersection, 7-Intersection Stranded, 8-Motor Vehicle Occupied Non-Motor Lane, 9-Illegal Lane Change, 10-Special Lane Occupancy, 11-Yellow Vehicle Restriction, 12-Intersection Parking, 13-Green Light Parking, 14-Out of Comity to Pedestrian, 15-Illegal Parking, 16-Illegal U-Turn, 17-Emergency Lane Occupancy, 18-No Right-Turn, 19-No Left-Turn, 20-Driving on Yellow Line, 21-Seatbelt Unfastened, 22-Pedestrian Red Light Running, 23-Vehicle Queue Jumping, 24-Illegal High Beam, 25-Driving with Making Call, 26-Left Turn not Yield to Straight, 27-Right Turn not Yield to Left Turn, 28-U-Turn not Yield to Straight, 29-Small Turn at Big Bend, 30-Running Green Light in Congestion, 31-Without Helmet, 32-Manned Non-Motor Vehicle, 33-Motor Vehicle on Non-Motor Vehicle Lane, 34-Non-Motor Vehicle Umbrella Tent, 35-Vehicle Discharging Black Smoke, 36-Honk, 37-Parking Over the Lane Line, 38-Occupying Two Parking Spaces, 39-Parking Over the Lane Line and Occupying Two Parking Spaces, 40-Not Yield to Vehicle from Right, 41-Not Yield to Vehicles in the Roundabout, 42-on

Ramp Not Yield to Main Road, 43-Large-Sized Vehicle on the Lane, 44-Roadster Step on the Gas, 45-Smoke.

byVehicleLogoRecog

Vehicle main brand. For details, refer to the enumeration VLR VEHICLE CLASS.

byVehicleSubLogoRecog

Vehicle sub brand.

byVehicleModel

Vehicle model of sub brand

byCustomInfo

Custom information

wVehicleLogoRecog

Vehicle main brands (it is compatible with **byVehicleLogoRecog**). For details, refer to the enumeration <u>VLR_VEHICLE_CLASS</u>.

byIsParking

Whether the vehicle is parking: 0-invalid, 1-parking, 2-not parking.

byRes

Reserved.

dwParkingTime

Parking time, unit: second.

byBelieve

Confidence of bylllegalType.

byRes

Reserved.

Remarks

For the vehicle main and sub brands, refer to the list provided by device.

5.1.71 NET_DVR_VEHICLE_CONTROL_ALARM

Structure about the information of blocklist and allowlist ANPR alarm.

Structure Definition

struct{	
DWORD	dwSize;
BYTE	byListType;
BYTE	byPlateType;
BYTE	byPlateColor;
BYTE	byRes1;

```
sLicense[MAX_LICENSE_LEN/*16*/];
char
char
           sCardNo[MAX CARDNO LEN/*48*/];
NET_DVR_TIME_V30 struAlarmTime;
DWORD
            dwChannel:
DWORD
              dwPicDataLen;
BYTE
            byPicType;
BYTE
            byPicTransType
            byRes3[2];
BYTE
           *pPicData;
char
            byRes2[48];
BYTE
}NET_DVR_VEHICLE_CONTROL_ALARM,*LPNET_DVR_VEHICLE_CONTROL_ALARM;
```

Members

dwSize

Structure size.

byListType

List type: 0-allowlist, 1-blocklist, 2-temporary list.

byPlateType

License plate type, seed details in **VCA_PLATE_TYPE**.

byPlateColor

License plate color, see details in **VCA_PLATE_COLOR** .

byRes1

Reserved, set to 0.

sLicense

License plate number

sCardNo

Card No.

struAlarmTime

Alarm time, see details in the structure NET_DVR_TIME_V30.

dwChannel

Device channel No.

dwPicDataLen

Picture data size, 0-no picture, non-0-with picture data.

byPicType

Picture format: 0-JPEG, 1-BMP, 2-PNG

byPicTransType

Picture transmission method: 0-binary, 1-url

byRes3

Reserved, set to 0.

pPicData

Buffer of picture data in JPEG format.

byRes2

Reserved, set to 0.

5.1.72 NET_DVR_VIA_LANE_PARAM

Structure about the lane parameters for VIA video detection mode

Structure Definition

```
struct{

BYTE byLaneNO;

BYTE byRes[63];

NET_ITC_LANE_LOGIC_PARAM struLogicParam;

NET_ITC_LINE struLaneLine;

NET_ITC_POLYGON struPlateRecog;

BYTE byRes1[300];

}NET_DVR_VIA_LANE_PARAM, *LPNET_DVR_VIA_LANE_PARAM;
```

Members

byLaneNO

Linked lane No.

byRes

Reserved.

struLogicParam

Lane attribute parameter, see details in the structure **NET ITC LANE LOGIC PARAM**.

struLaneLine

Lane line, see details in the structure **NET ITC LINE**.

struLaneLine

License plate recognition area parameter, see details in the structure **NET ITC POLYGON**.

byRes1

Reserved.

See Also

NET DVR VIA VTCOIL PARAM

5.1.73 NET_DVR_VIA_VTCOIL_PARAM

VIA video detection parameter structure.

Structure Definition

```
struct{
BYTE byEnable;
BYTE byLaneNum;
BYTE byRes[62];
NET_ITC_LINE struLaneBoundaryLine;
NET_DVR_VIA_LANE_PARAM struLaneParam[MAX_ITC_LANE_NUM/*6*/];
NET_ITC_PLATE_RECOG_PARAM struPlateRecog;
BYTE byRes1[624];
}NET_DVR_VIA_VTCOIL_PARAM, *LPNET_DVR_VIA_VTCOIL_PARAM;
```

Members

byEnable

Enable or not: 0-no, 1-yes.

byLaneNum

Number of recognized lanes.

byRes

Reserved.

struLaneBoundaryLine

Lane boundary line, which is the left boundary line of the leftmost lane, see details in the structure **NET ITC LINE** .

struLaneParam

Lane parameter for VIA video detection, see details in the structure

```
<u>NET_DVR_VIA_LANE_PARAM</u>.
```

struPlateRecog

License plate recognition parameter, see details in the structure

```
NET ITC PLATE RECOG PARAM.
```

byRes1

Reserved.

See Also

NET_ITC_TRIGGER_PARAM_UNION

5.1.74 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 <u>NET_DVR_MIME_UNIT</u> .	
dwInBufferSize	DWORD	Input buffer size.	
dwRecvTimeOut	DWORD	Receiving timeout, unit: ms, 0-5000ms (default)	
byForceEncrpt	ВУТЕ	Whether to enable force encryption (the messages will be encrypted by AES algorithm for transmission): 0-no, 1-yes.	
byNumOfMultiPart	ВУТЕ	Number of message segments: 0-invalid; other values-number of message segments, which is transmitted by the parameter IpInBuffer in the structure NET_DVR_MIME_UNIT .	
byRes	Array of BYTE	Reserved, set to 0.	

Related API

NET_DVR_STDXMLConfig

5.1.75 NET_DVR_XML_CONFIG_OUTPUT

Output Parameter Structure of Message Transmission API (NET_DVR_STDXMLConfig)

Member	Data Type	Description	
dwSize	DWORD	Structure size.	
IpOutBuffer	void*	Buffer for storing output parameters (response messages), which is allocated when passing through URL by GET method.	

Member	Data Type	Description	
dwOutBufferSize	DWORD	Output buffer size.	
dwReturnedXMLSize	DWORD	Actual size of response message.	
IpStatusBuffer	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.	
IpDataBuffer	HPR_VOIDPTR	Buffer for transmitted data. This parameter is valid when the value of byNumOfMultiPart is larger than 0.	
byNumOfMultiPart	HPR_UINT8	Number of parts that the message is divided into.	
byRes [23]	ВУТЕ	Reserved, set to 0.	

Related API

NET_DVR_STDXMLConfig

5.1.76 NET_IPC_LANE_HVT_PARAM

Mixed checkpoint lane parameter structure of network camera.

Structure Definition

```
struct{

BYTE byLaneNO;

BYTE byCarDriveDirect;

BYTE byRes[62];

NET_ITC_LINE struLaneLine;

NET_ITC_POLYGON struPlateRecog;

BYTE byRes1[256];

NET_IPC_LANE_HVT_PARAM, *LPNET_IPC_LANE_HVT_PARAM;
```

Members

byLaneNO

Lane No.

byCarDriveDirect

Vehicle driving direction, which is enumerated below:

```
enum_ITC_LANE_CAR_DRIVE_DIRECT_{
ITC_LANE_DRIVE_UNKNOW = 0,
ITC_LANE_DRIVE_UP_TO_DOWN = 1,
ITC_LANE_DRIVE_DOWN_TO_UP = 2
}ITC_LANE_CAR_DRIVE_DIRECT
```

ITC_LANE_DRIVE_UNKNOW

Unknown

ITC LANE DRIVE UP TO DOWN

Drive from up to bottom on image.

ITC_LANE_DRIVE_DOWN_TO_UP

Drive from bottom to up on image.

byRes

Reserved, set to 0.

struLaneLine

Lane line, refer to the structure **NET_ITC_LINE** for details.

struPlateRecog

ANPR region parameters, refer to the structure **NET ITC POLYGON** for details.

byRes1

Reserved, set to 0.

See Also

NET IPC POST HVT PARAM

5.1.77 NET IPC POST HVT PARAM

Structure of mixed checkpoint trigger parameters of network camera.

```
struct{
BYTE
                byEnable;
BYTE
                byLaneNum;
BYTE
                byRes[62];
NET ITC LINE
                    struLaneBoundaryLine;
NET ITC PLATE RECOG PARAM struPlateRecog;
NET_IPC_LANE_HVT_PARAM
                          struLaneParam[MAX_ITC_LANE_NUM/*6*/];
char
               szSceneName[NAME_LEN/*32*/];
NET_VCA_LINE
                    struSnapLine;
BYTE
               byRes1[392];
}NET_IPC_POST_HVT_PARAM,*LPNET_IPC_POST_HVT_PARAM;
```

Members

byEnable

Whether to enable mixed checkpoint trigger mode of network camera: 0-no, 1-yes.

byLaneNum

Number of lanes to be recognized.

byRes

Reserved.

struLaneBoundaryLine

Left boundary line of left lane, refer to the structure **NET ITC LINE** for details.

struPlateRecog

ANPR parameters, refer to the structure **NET ITC LANE MPR PARAM** for details.

struLaneParam

Lane parameters, refer to the structure **NET IPC LANE HVT PARAM** for details.

szSceneName

Scene name.

struSnapLine

Capture line, it is valid only when the camera is mounted at road side, refer to the structure **NET_VCA_LINE** for details.

byRes1

Reserved.

See Also

NET ITC TRIGGER PARAM UNION

5.1.78 NET ITC EPOLICE IOTL PARAM

Structure about IO traffic light parameters for the intersection violation system.

Structure Definition

Members

struPlateRecog

License plate recognition parameter, see details in the structure

NET ITC PLATE RECOG PARAM.

struSingleIOTL

IO traffic light parameter of a single group, see details in the structure

NET ITC SINGLE IOTL PARAM.

byRes

Reserved.

See Also

NET ITC TRIGGER PARAM UNION

5.1.79 NET_ITC_EPOLICE_LANE_PARAM

Structure about lane parameters of RS-485 vehicle detector trigger mode for the intersection violation system.

```
struct{
BYTE
                  byEnable;
BYTE
                  byRelatedDriveWay;
WORD
                    wDistance;
                  byRecordEnable;
BYTE
BYTE
                  byRecordType;
BYTE
                  byPreRecordTime;
BYTE
                  byRecordDelayTime;
BYTE
                  byRecordTimeOut;
                  bySignSpeed;
BYTE
BYTE
                  bySpeedLimit;
BYTE
                  byOverlayDriveWay;
NET_ITC_SERIAL_INFO
                          struSerialInfo;
                  byRelatedIOOut[MAX IOOUT NUM/*4*/];
BYTE
                  byFlashMode;
BYTE
BYTE
                  bySerialType;
BYTE
                  byRelatedIOOutEx;
                  bySnapPicPreRecord;
byBigCarSignSpeed;
BYTE
BYTE
                  byBigCarSpeedLimit;
BYTE
                  byRedTrafficLightChan;
BYTE
                  byYellowTrafficLightChan;
                  byRelaLaneDirectionType;
BYTE
BYTE
                  byRes3[11];
}NET_ITC_EPOLICE_LANE_PARAM, *LPNET_ITC_EPOLICE_LANE_PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes.

byRelatedDriveWay

Linked lane No.

wDistance

Coil distance (reserved), unit: centimeter.

byRecordEnable

Whether to record by cycle for running red light event: 0-no, 1-yes.

byRecordType

Recording type for running red light event: 0-pre-record, 1-post-record.

byPreRecordTime

Pre-record time for running red light event, the default value is 0, unit: second.

byRecordDelayTime

Post-record time for running red light event, the default value is 0, unit: second.

byRecordTimeOut

Cycle recording timeout for running red light event, unit: second.

bySignSpeed

Marked speed limit (only valid for checkpoint intersection violation system), unit: km/h.

bySpeedLimit

Speed limit (only valid for checkpoint intersection violation system), unit: km/h.

byOverlayDriveWay

OSD overlayed lane No.

struSerialInfo

Vehicle detector parameters.

byRelatedIOOut

Linked IO output port. Multiple ports can be linked simultaneously.

byFlashMode

Flashing mode of the flash light: 0-simultaneous, 1-sequential.

bySerialType

Vehicle detector type: 0-private vehicle detector, 1-private OEM vehicle detector, 2-other vehicle detector.

byRelatedIOOutEx

Linked IO output port. The output port No. is represented by bit, e.g., bit 0 refers to IO output port 1, bit 1 refers to IO output port 2, and so on. For each bit, 0 means that the output port is not linked, and 1 means that the output port is linked. Up to 8 IO output ports can be linked. This member is compatible with **byRelatedIOOut**.

bySnapPicPreRecord

Pre-record time for capturing pictures: 0-default (the second picture), 1-the first picture, 2-the second picture, 3-the third picture.

struPlateRecog

License plate recognition area parameters, see details in the structure

NET ITC PLATE RECOG REGION PARAM.

byBigCarSignSpeed

Marked speed limit for large-sized vehicle, unit: km/h.

byBigCarSpeedLimit

Speed limit for large-sized vehicle, unit: km/h.

byRedTrafficLightChan

Red light channel No. of the traffic light detector, ranging from 1 to 16.

byYellowTrafficLightChan

Yellow light channel No. of the traffic light detector, ranging from 1 to 16.

byRelaLaneDirectionType

Linked lane direction type, see details in the structure ITC RELA LANE DIRECTION TYPE.

byRes3

Reserved.

Remarks

The linked lane No. configured by **byRelatedDriveWay** corresponds to the lane in the vehicle detector for capturing. The lane No. configured by **byOverlayDriveWay** is the overlay lane No. which is the actual lane No.

See Also

NET ITC EPOLICE RS485 PARAM

5.1.80 NET_ITC_EPOLICE_RS485_PARAM

Structure about triggering parameters of RS-485 vehicle detector for intersection violation system and checkpoint intersection violation system.

Structure Definition

```
struct{
BYTE byRelatedLaneNum;
BYTE byTrafficLightSignalSrc;
BYTE byRes1[2];
NET_ITC_PLATE_RECOG_PARAM struPlateRecog;
NET_ITC_EPOLICE_LANE_PARAM struLane[MAX_ITC_LANE_NUM/*6*/];
BYTE byRes[32];
}NET_ITC_EPOLICE_RS485_PARAM, *LPNET_ITC_EPOLICE_RS485_PARAM;
```

Members

byRelatedLaneNum

Number of linked lanes.

byTrafficLightSignalSrc

Traffic light signal source: 0-vehicle detector, 1-traffic light detector.

byRes1

Reserved.

struPlateRecog

License plate recognition parameter, see details in the structure **NET_ITC_PLATE_RECOG_PARAM** .

struLane

Linked lane parameter, see details in the structure NET ITC EPOLICE LANE PARAM.

byRes

Reserved.

Remarks

The parameters **byRedTrafficLightChan** and **byYellowTrafficLightChan** in the structure **NET ITC EPOLICE LANE PARAM** are valid only when **byTrafficLightSignalSrc** is set to 1.

See Also

NET ITC TRIGGER PARAM UNION

5.1.81 NET_ITC_INTERVAL_PARAM

Structure about capture interval parameters.

```
struct{
BYTE byIntervalType;
BYTE byRes1[3];
```

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```
WORD winterval[MAX_INTERVAL_NUM/*4*/];
BYTE byRes[8];
}NET_ITC_INTERVAL_PARAM, *LPNET_ITC_INTERVAL_PARAM;
```

Members

byIntervalType

Interval type: 0-time (default), 1-distance.

byRes1

Reserved.

wInterval

Burst interval (unit: millisecond) or burst distance (unit: decimeter). The burst interval type is determined by **byIntervalType**.

byRes

Reserved.

5.1.82 NET_ITC_IO_LIGHT_PARAM

Structure about IO access traffic light parameters.

Structure Definition

```
struct{

NET_ITC_SINGLE_IO_LIGHT_PARAM strulOLight[MAX_LIGHT_NUM/*6*/];

BYTE byRes[8];
}NET_ITC_IO_LIGHT_PARAM, *LPNET_ITC_IO_LIGHT_PARAM;
```

Members

struIOLight

Single IO access traffic light parameters, see details in the structure **NET ITC SINGLE IO LIGHT PARAM**.

byRes

Reserved.

See Also

NET ITC LIGHT ACCESSPARAM UNION

5.1.83 NET_ITC_LANE_HVT_PARAM_V50

Structure about the extended lane parameters of the mixed-traffic checkpoint.

Structure Definition

```
struct{
BYTE
                byLaneNO;
BYTE
                byFlashMode;
BYTE
                bySignSpeed;
BYTE
                bySpeedLimit;
 BYTE
                bySignLowSpeed;
BYTE
                byLowSpeedLimit;
BYTE
                byBigCarSignSpeed;
                byBigCarSpeedLimit;
 BYTE
BYTE
                byBigCarSignLowSpeed;
 BYTE
                byBigCarLowSpeedLimit;
 BYTE
                bySnapTimes;
 BYTE
                byDriveLineSnapTime;
 BYTE
                byHighSpeedSnapTime;
 BYTE
                byLowSpeedSnapTime;
 BYTE
                byBanSnapTime;
 BYTE
                byReverseSnapTime;
BYTE
                byRelatedDriveWay;
BYTE
                byLaneType;
                byRelaLaneDirectionType;
 BYTE
 BYTE
                byRes1[29];
 DWORD
                   dwVioDetectType;
 DWORD
                   dwRelatedIOOut;
NET ITC_LINE
                    struTrigLine;
NET ITC LINE
                    struLineLeft;
NET ITC POLYGON
                       struPlateRecog;
NET ITC LANE LOGIC PARAM struLane;
NET ITC INTERVAL PARAM
                           struInterval;
                byRes2[280];
NET ITC LANE HVT PARAM V50, *LPNET ITC LANE HVT PARAM V50;
```

Members

byLaneNO

Linked lane No. used for overlaying and uploading, ranging from 1 to 255.

byFlashMode

Flashing mode of the flash light: 0-simultaneous, 1-sequential.

bySignSpeed

Maximum marked speed limit for small-sized vehicle, unit: km/h.

bySpeedLimit

Maximum speed limit for small-sized vehicle, unit: km/h.

bySignLowSpeed

Minimum marked speed limit for small-sized vehicle, unit: km/h.

byLowSpeedLimit

Minimum speed limit for small-sized vehicle, unit: km/h.

byBigCarSignSpeed

Maximum marked speed limit for large-sized vehicle, unit: km/h.

byBigCarSpeedLimit

Maximum speed limit for large-sized vehicle, unit: km/h.

byBigCarSignLowSpeed

Minimum marked speed limit for large-sized vehicle, unit: km/h.

byBigCarLowSpeedLimit

Minimum speed limit for large-sized vehicle, unit: km/h.

bySnapTimes

Number of captured pictures of checkpoint, ranging from 1 to 3.

byDriveLineSnapTime

Number of captured pictures of driving on the lane line, ranging from 1 to 3.

byHighSpeedSnapTime

Number of captured pictures of overspeed, ranging from 1 to 3.

byLowSpeedSnapTime

Number of captured pictures of low speed, ranging from 1 to 3.

byBanSnapTime

Number of captured pictures of prohibition violation, ranging from 1 to 3.

byReverseSnapTime

Number of captured pictures of wrong-way driving, ranging from 1 to 3.

byRelatedDriveWay

Linked lane No. used for matching vehicle detector.

byLaneType

Lane type: 0-unconfigured, 1-highway, 2-city express way, 0xff-other way.

byRelaLaneDirectionType

Linked lane direction type, see details in the structure <u>ITC_RELA_LANE_DIRECTION_TYPE</u>. It corresponds to **byRelatedDriveWay** to ensure that the lane is unique.

byRes1

Reserved, set to 0.

dwVioDetectType

Violation detection type, represented by bit. For each bit, 0 means that this type is disabled, 1 means that this type is enabled. See details in the structure <u>ITC VIOLATION DETECT TYPE</u>.

dwRelatedIOOut

Linked IO output port. Multiple ports can be linked simultaneously. The output port No. is represented by bit, e.g., bit 0 refers to IO output port 1, bit 1 refers to IO output port 2, and so on. For each bit, 0 means that the output port is not linked, and 1 means that the output port is linked.

struTrigLine

Triggering line, see details in the structure <u>NET_ITC_LINE</u>. Currently only the triggering line of the first lane is used.

struLineLeft

Left lane line, see details in the structure **NET_ITC_LINE** .

struPlateRecog

License plate recognition area parameters, see details in the structure **NET ITC POLYGON**.

struLane

Lane properties, see details in the structure **<u>NET_ITC_LANE_LOGIC_PARAM</u>**. In the structure **byUseageType** and **byCarDriveDirect** are valid.

struinterval

Capture interval parameters, see details in the structure **NET ITC INTERVAL PARAM**.

byRes2

Reserved, set to 0.

See Also

NET ITC POST HVT PARAM V50

5.1.84 NET ITC LANE IMT PARAM

Structure about lane parameters for smart monitoring.

Structure Definition

```
struct{
BYTE byLaneNO;
BYTE byRelaLaneDirectionType;
BYTE byRes[146];
NET_ITC_LINE struLaneLine;
BYTE byRes1[256];
}NET_ITC_LANE_IMT_PARAM, *LPNET_ITC_LANE_IMT_PARAM;
```

Members

byLaneNO

Overlay lane No.

byRelaLaneDirectionType

Linked lane direction type, see details in the structure <u>ITC_RELA_LANE_DIRECTION_TYPE</u>. It corresponds to the linked lane No. to ensure that the lane is unique.

byRes

Reserved, set to 0.

struLaneLine

Lane line, see details in the structure **NET_ITC_LINE**.

byRes1

Reserved, set to 0.

See Also

NET ITC POST IMT PARAM

5.1.85 NET_ITC_LANE_LOGIC_PARAM

Structure about lane attribute parameters

Structure Definition

```
struct{

BYTE byUseageType;

BYTE byDirectionType;

BYTE byCarDriveDirect;

BYTE byRes[33];

}NET_ITC_LANE_LOGIC_PARAM, *LPNET_ITC_LANE_LOGIC_PARAM;
```

Members

byUseageType

Lane usage type, see details in the structure ITC LANE USEAGE TYPE.

byDirectionType

Lane direction type, see details in the structure ITC LANE DIRECTION TYPE.

byCarDriveDirect

Vehicle driving direction, see details below:

```
enum{
ITC_LANE_DRIVE_UNKNOW = 0,
ITC_LANE_DRIVE_UP_TO_DOWN = 1,
ITC_LANE_DRIVE_DOWN_TO_UP = 2
}ITC_LANE_CAR_DRIVE_DIRECT
```

ITC_LANE_DRIVE_UNKNOW

Unknown.

ITC_LANE_DRIVE_UP_TO_DOWN

Driving from top to bottom on image (down direction).

ITC_LANE_DRIVE_DOWN_TO_UP

Driving from bottom to top on image (up direction).

byRes

Reserved, set to 0.

See Also

NET ITC LANE HVT PARAM V50
NET ITC LANE VIDEO EPOLICE PARAM

5.1.86 NET_ITC_LANE_MPR_PARAM

Structure about the lane parameters in video recognition mode.

Structure Definition

```
struct{
BYTE
            byLaneNO;
union{
            uLen[4];
  BYTE
  struct{
            byIONo;
   BYTE
   BYTE
            byTriggerType;
   BYTE
            byRes1[2];
  }struIO;
  struct{
   BYTE
            byRelateChan;
   BYTE
            byRes2[3];
  }struRS485;
}uTssParamInfo;
BYTE
           byCarDriveDirect;
BYTE
           byRes[58];
NET ITC LINE struLaneLine;
NET_ITC_POLYGON struPlateRecog;
           byRes1[256];
NET ITC LANE MPR PARAM,*LPNET ITC LANE MPR PARAM;
```

Members

byLaneNO

Vehicle lane No.

uTssParamInfo

Triggering parameter union, see details below.

uLen

Union size, which is 4 bytes.

struIO

Structure about the parameters of alarm input triggering mode, see details below.

byIONo

Linked alarm input No., which starts from 1.

byTriggerType

Triggering mode, 0-falling edge, 1-rising edge

byRes1

Reserved, set as 0.

struRS485

Structure about the parameters of RS-485 triggering mode, see details below.

byRelateChan

Linked vehicle detector No., which is between 1 and 16.

byRes2

Reserved, set as 0.

byCarDriveDirect

Vehicle driving direction, see details below:

```
enum{
ITC_LANE_DRIVE_UNKNOW = 0,
ITC_LANE_DRIVE_UP_TO_DOWN = 1,
ITC_LANE_DRIVE_DOWN_TO_UP = 2
}ITC_LANE_CAR_DRIVE_DIRECT
```

ITC_LANE_DRIVE_UNKNOW

Unknown.

ITC_LANE_DRIVE_UP_TO_DOWN

Drive from top to bottom on image.

ITC_LANE_DRIVE_DOWN_TO_UP

Drive from bottom to top on image.

byRes

Reserved

struLaneLine

Lane line, see details in the structure **NET_ITC_LINE** .

struPlateRecog

License plate region information, see details in the structure **NET ITC POLYGON**.

byRes1

Reserved

Remarks

The structure struIO in the union uTssParamInfo is valid when the value of parameter bySourceType (in structure <u>NET_ITC_POST_MPR_PARAM</u>) equal to1; the structure struRS485 in the union uTssParamInfo is valid when the value of parameter bySourceType (in structure **NET_ITC_POST_MPR_PARAM**) equal to 2.

5.1.87 NET_ITC_LANE_NOCOMITY_PEDESTRIAN_PARAM

Structure about lane parameters of triggering mode of not yielding to pedestrian.

Structure Definition

```
struct{
BYTE
            byRelatedDriveWay;
BYTE
            byRelaLaneDirectionType;
BYTE
            byPedestriansNum;
BYTE
            byVehicleSpeed;
DWORD
              dwVehicleInterval;
            byPedesDetRule;
BYTE
BYTE
            byRes[3];
NET ITC LINE
                struLaneLine;
NET_ITC_LINE
                struStopLine;
NET_ITC_POLYGON struPlateRecog;
BYTE
            byRes1[280];
}NET_ITC_LANE_NOCOMITY_PEDESTRIAN_PARAM, *LPNET_ITC_LANE_NOCOMITY_PEDESTRIAN_PARAM;
```

Members

byRelatedDriveWay

Linked lane No.

byRelaLaneDirectionType

Linked lane direction type.

byPedestriansNum

Number of pedestrian threshold, ranging from 1 to 100, the default value is 1.

byVehicleSpeed

Vehicle speed threshold, ranging from 1 to 100, the default value is 0.

dwVehicleInterval

Vehicle following detection threshold, ranging from 0 to 65536, the default value is 0.

byPedesDetRule

Pedestrian detection rule, which indicates the walking direction of the pedestrian in the detection area: 0-from right to left, 1-from left to right.

byRes

Reserved, set to 0.

struLaneLine

Lane line, see details in the structure NET ITC LINE.

struStopLine

Stop line, see details in the structure **NET_ITC_LINE**.

struPlateRecog

License plate recognition area, see details in the structure **NET_ITC_POLYGON** .

byRes1

Reserved, set to 0.

See Also

NET ITC NOCOMITY_PEDESTRIAN_PARAM

5.1.88 NET_ITC_LANE_PARAM

Lane parameter structure

```
struct{
BYTE
                    byEnable;
BYTE
                    byRelatedDriveWay;
WORD
                      wDistance;
                      wTrigDelayTime;
WORD
BYTE
                    byTrigDelayDistance;
BYTE
                    bySpeedCapEn;
BYTE
                    bySignSpeed;
                    bySpeedLimit;
BYTE
BYTE
                    bySnapTimes;
BYTE
                    byOverlayDriveWay;
NET_ITC_INTERVAL_PARAM
                                struInterval;
BYTE
                    byRelatedIOOut[MAX IOOUT NUM];
                    byFlashMode;
BYTE
                    byCartSignSpeed;
BYTE
BYTE
                    byCartSpeedLimit;
                    byRelatedIOOutEx;
NET_ITC_PLATE_RECOG_REGION_PARAM struPlateRecog[MAX_LANEAREA_NUM];
BYTE
                    byLaneType;
BYTE
                    byUseageType;
BYTE
                    byRelaLaneDirectionType;
BYTE
                    byLowSpeedLimit;
```

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BYTE	byBigCarLowSpeedLimit;	
BYTE	byLowSpeedCapEn;	
BYTE	byEmergencyCapEn;	
BYTE	<pre>byRes[9];</pre>	
<pre>}NET_ITC_LANE_PARAM,*LPNET_ITC_LANE_PARAM;</pre>		

Members

byEnable

Whether to enable this lane: 0-no, 1-yes.

byRelatedDriveWay

Linked lane No., which matches with the lane of vehicle detector, and it is used for capture.

wDistance

Distance between two coils, which is used for calculating speed.

wTrigDelayTime

Trigger delay time, unit: millisecond, the default value is 200.

byTrigDelayDistance

Trigger delay distance, unit: decimetre, the default value is 0.

bySpeedCapEn

Whether to trigger capture when overspeed is detected: 0-no, 1-yes.

bySignSpeed

Speed limit sign, unit: km/h

bySpeedLimit

Limit speed, unit: km/h.

bySnapTimes

Times of capture: 0-not capture, non-0-continuous capture, the maximum value is 5, the default value is 1.

byOverlayDriveWay

Lane No. to be displayed on video, which is the actual lane No.

struInterval

Time interval of capture, refer to the structure **<u>NET ITC INTERVAL PARAM</u>** for details.

byRelatedIOOut

Linked alarm output No., and multiple alarm outputs can be linked.

byFlashMode

Flash mode of flash light: 0-flash at same time, 1-switch to flash.

byCartSignSpeed

Speed limit sign of large-sized vehicle, unit: km/h.

byCartSpeedLimit

Limit speed of large-sized vehicle, unit: km/h.

byRelatedIOOutEx

Linked alarm output No., which is represented by bit: bit0-alarm output 1, bit1-alarm output 2, and so on. The value of bit: 0-not linked, 1-linked. Up to 8 alarm outputs can be linked. This parameter compatible with the parameter **byRelatedIOOut**.

struPlateRecog

ANPR region parameters, refer to the structure <u>NET_ITC_PLATE_RECOG_REGION_PARAM</u> for details.

byLaneType

Lane type: 0-not configured, 1-highway, 1-urban expressway, 0xff-other road.

byUseageType

Lane usage, which is enumerated in ITC LANE USEAGE TYPE.

byRelaLaneDirectionType

Linked lane direction, which is enumerated in ITC RELA LANE DIRECTION TYPE.

byLowSpeedLimit

Low speed limit of small-sized vehicle, unit: km/h.

byBigCarLowSpeedLimit

Low speed limit of large-sized vehicle, unit: km/h.

byLowSpeedCapEn

Whether to trigger capture when low speed is detected: 0-no, 1-yes.

byEmergencyCapEn

Whether to trigger capture when emergency lane occupation is detected.

byRes

Reserved.

Remarks

5.1.89 NET_ITC_LANE_PRS_PARAM

Structure about lane parameters of video detection triggering mode.

```
struct{
BYTE byLaneNO;
union{
BYTE uLen[4];
struct{
```

```
BYTE bylONo;
  BYTE byTriggerType;
  BYTE byRes1[2];
 }struIO;
 struct{
  BYTE
         byRelateChan;
  BYTE
        byRes2[3];
 }struRS485;
}uTssParamInfo;
           byRes[59];
BYTE
NET_ITC_LINE struLaneLine;
NET_ITC_POLYGON struPlateRecog;
           byRelaLaneDirectionType;
BYTE
BYTE byRes2[3];
NET_ITC_LINE struTrigLine;
BYTE
        byRes1[228];
}NET_ITC_LANE_PRS_PARAM, *LPNET_ITC_LANE_PRS_PARAM;
Members
byLaneNO
  Lane No.
uTssParamInfo
  Triggering parameters information union, see its members below:
  uLen
     Union size (4 bytes).
  struIO
     Structure about triggering mode parameters, see its members below:
     byIONo
        Linked IO No., starting from 1.
     byTriggerType
        Triggering mode: 0-falling edge, 1-rising edge.
     byRes1
        Reserved, set to 0.
  struRS485
     Structure about RS-485 triggering mode parameters, see its members below:
     byRelateChan
        Linked vehicle detector channel No., ranging from 1 to 16.
     byRes2
```

Reserved, set to 0.

byRes

Reserved.

struLaneLine

Lane line, see details in the structure **NET ITC LINE**.

struPlateRecog

License plate recognition area, see details in the structure **NET ITC POLYGON**.

byRelaLaneDirectionType

Linked lane direction type, see details in the structure ITC RELA LANE DIRECTION TYPE.

byRes2

Reserved.

struTrigLine

Triggering line, see details in the structure **NET ITC LINE**.

byRes1

Reserved.

See Also

NET ITC POST PRS PARAM

5.1.90 NET_ITC_LANE_VIDEO_EPOLICE_PARAM

Structure about the lane parameters of video intersection violation system triggering mode.

```
struct{
BYTE
                  byLaneNO;
BYTE
                  bySensitivity;
BYTE
                  byEnableRadar;
BYTE
                  byRelaLaneDirectionType;
NET_ITC_LANE_LOGIC_PARAM
                              struLane;
NET ITC VIOLATION DETECT PARAM struVioDetect;
NET_ITC_POLYGON
                        struPlateRecog;
BYTE
                  byRecordEnable;
BYTE
                  byRecordType;
BYTE
                  byPreRecordTime;
BYTE
                  byRecordDelayTime;
                  byRecordTimeOut;
BYTE
BYTE
                  byCarSpeedLimit;
BYTE
                  byCarSignSpeed;
                  bySnapPicPreRecord;
BYTE
NET_ITC_INTERVAL_PARAM
                            struInterval;
                  byRes[36];
}NET_ITC_LANE_VIDEO_EPOLICE_PARAM, *LPNET_ITC_LANE_VIDEO_EPOLICE_PARAM;
```

Members

byLaneNO

Linked lane No.

bySensitivity

Coil sensitivity, ranging from 1 to 100.

byEnableRadar

Whether to enable radar detection: 0-no, 1-yes.

byRelaLaneDirectionType

Linked lane direction type, see details in the structure <u>ITC_RELA_LANE_DIRECTION_TYPE</u>. It corresponds to the linked lane No. to ensure that the lane is unique.

struLane

Lane parameters, see details in the structure NET ITC LANE LOGIC PARAM.

struVioDetect

Violation detection parameters, see details in the structure

<u>NET_ITC_VIOLATION_DETECT_PARAM</u>.

struLine

Violation detection line, see details in the structure **NET ITC VIOLATION DETECT LINE**.

struPlateRecog

License plate recognition area parameters, see details in the structure **<u>NET_ITC_POLYGON</u>**.

byRecordEnable

Whether to record by cycle for running red light event: 0-no, 1-yes.

byRecordType

Recording type for running red light event: 0-pre-record, 1-post-record.

byPreRecordTime

Pre-record time for running red light event, the default value is 0, unit: second.

byRecordDelayTime

Post-record time for running red light event, the default value is 0, unit: second.

byRecordTimeOut

Cycle recording timeout for running red light event, unit: second.

byCarSpeedLimit

Vehicle speed limit, unit: km/h.

byCarSignSpeed

Marked speed limit, unit: km/h.

bySnapPicPreRecord

Pre-record time for capturing pictures: 0-default (the second picture), 1-the first picture, 2-the second picture, 3-the third picture.

struInterval

Capture interval parameters, see details in the structure NET ITC INTERVAL PARAM.

byRes

Reserved, set to 0.

5.1.91 NET ITC LIGHT ACCESSPARAM UNION

Traffic light connection parameters union.

Structure Definition

Members

uLen

Union size.

struIOLight

IO access traffic light parameters, see details in the structure **NET_ITC_IO_LIGHT_PARAM** .

struRS485Light

RS-485 access traffic light parameters, see details in the structure **NET ITC RS485 LIGHT PARAM**.

struVideoDelectLight

Traffic light parameters detected in the video, see details in the structure **NET ITC VIDEO DETECT LIGHT PARAM**.

See Also

NET ITC TRAFFIC LIGHT PARAM

5.1.92 NET ITC LINE

Traffic line information structure

Structure Definition

```
struct{

struLine;

BYTE byLineType;

BYTE byRes[7];
}NET_ITC_LINE, *LPNET_ITC_LINE;
```

Members

struLine

Traffic line parameters.

byLineType

Traffic line type, see details below.

```
enum{
ITC_LINT_UNKNOW = 0,
ITC_LINE_WHITE = 1,
ITC_LINE_STOP = 2,
ITC_LINE_SINGLE_YELLOW = 3,
ITC_LINE_DOUBLE_YELLOW = 4,
ITC_LINE_GUARD_RAIL = 5,
ITC_LINE_NO_CROSS = 6
}ITC_LINE_TYPE
```

ITC LINT UNKNOW

Unknown

ITC_LINE_WHITE

Solid white line between lanes

ITC_LINE_STOP

Stop line

ITC_LINE_SINGLE_YELLOW

Single yellow line

ITC_LINE_DOUBLE_YELLOW

Double yellow line

ITC_LINE_GUARD_RAIL

Guardrail on the lane

ITC_LINE_NO_CROSS

No-Crossing line

byRes1

Reserved, set to 0.

5.1.93 NET_ITC_NOCOMITY_PEDESTRIAN_PARAM

Structure about triggering parameters of not yielding to pedestrian.

Structure Definition

```
struct{
BYTE
                      byEnable;
BYTE
                      byLaneNum;
BYTE
                      byRes[74];
NET ITC LINE
                          struLaneBoundaryLine;
NET_ITC_LINE
                          struTriggerLine;
NET ITC POLYGON
                             struPedesDetRecog;
NET ITC LANE NOCOMITY PEDESTRIAN PARAM struLaneParam[MAX ITC LANE NUM/*6*/];
NET_ITC_PLATE_RECOG_PARAM
                                   struPlateRecog;
BYTE
                      byRes1[400];
}NET_ITC_NOCOMITY_PEDESTRIAN_PARAM, *LPNET_ITC_NOCOMITY_PEDESTRIAN_PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes.

byLaneNum

Number of recognized lanes, ranging from 1 to 3.

byRes

Reserved, set to 0.

struLaneBoundaryLine

Border line of the lane, which is the border line of the rightmost lane, see details in the structure **NET_ITC_LINE** .

struTriggerLine

Triggering line of not yielding to pedestrian, see details in the structure **NET ITC LINE**.

struPedesDetRecog

Pedestrian detection area, see details in the structure **NET ITC POLYGON**.

struLaneParam

Lane parameters, each array represents a lane, see details in the structure **NET ITC LANE NOCOMITY PEDESTRIAN PARAM**.

struPlateRecog

License plate recognition parameters, see details in the structure **NET ITC PLATE RECOG PARAM**.

byRes1

Reserved, set to 0.

See Also

NET ITC TRIGGER PARAM UNION

5.1.94 NET_ITC_PLATE_RECOG_PARAM

ANPR parameter structure.

Structure Definition

```
struct{

BYTE byDefaultCHN[MAX_CHJC_NUM/*3*/];

BYTE byEnable;

DWORD dwRecogMode;

BYTE byVehicleLogoRecog;

BYTE byProvince;

BYTE byRegion;

BYTE byRes1;

WORD wPlatePixelWidthMin;

WORD wPlatePixelWidthMax;

BYTE byRes[24];

NET_ITC_PLATE_RECOG_PARAM,*LPNET_ITC_PLATE_RECOG_PARAM;
```

Members

byDefaultCHN

Province

byEnable

Whether to enable ANPR for this region: 0-no, 1-yes.

dwRecogMode

Recognition type:

- bit0-Recognition direction: 0-from front, 1-from back (back plate recognition);
- bit1-License plate size: 0-small,1-large;
- bit2-Vehicle color: 0-disable, 1-enable;
- bit3-Farm vehicle: 0-disable, 1-enable;
- bit4-Fuzzy recognition: 0-disable, 1-enable;
- bit5-Positioning mode: 0-positioning by frame, 1-positioning by scene;
- bit6-Recognition mode: 0-recognize by frame, 1-recognize by scene;
- bit7-Day or night: 0-day, 1-night
- bit8-Motorcycle: 0-disable, 1-enable;
- bit9-Scene mode: 0-intersection violation system/video, 1-checkpoint

- bit10-Mini license plate: 0-disable, 1-enable (60 to 80 pixels)
- bit12-Civil license plate: 0-disable, 1-enable;
- bit13-Overtilted license plate: 0-disable, 1-enable;
- bit14-Oversized license plate: 0-disable, 1-enable;
- bit15-Sun shield detection: 0-disable, 1-enable;
- bit16-Yellow-label vehicle detection: 0-disable, 1-enable;
- bit17-Dangerous goods vehicle detection: 0-disable, 1-enable;
- bit18-Embassy vehicle detection: 0-disable, 1-enable;
- bit19-Vehicle sub brand recognition: 0-disable, 1-enable;

byVehicleLogoRecog

Whether to enable vehicle brand recognition: 0-no, 1-yes

byProvince

Reserved

byRegion

Region No.: 0-reserved, 1-Europe, 2-Russian, 3-Europe and Russian (EU&CIS)

byRes1

Reserved

wPlatePixelWidthMin

Minimum width of license plate that can be recognized, unit: pixel, range: [130,500]

wPlatePixelWidthMax

Maximum width of license plate that can be recognized, unit: pixel, range: [130,500]

byRes

Reserved.

5.1.95 NET_ITC_PLATE_RECOG_REGION_PARAM

Structure about license plate recognition area parameters.

```
struct{
BYTE byMode;
BYTE byRes1[3];
union{
NET_VCA_RECT struRect;
NET_ITC_POLYGON struPolygon;
}uRegion;
BYTE byRes[16];
}NET_ITC_PLATE_RECOG_REGION_PARAM, *LPNET_ITC_PLATE_RECOG_REGION_PARAM;
```

Members

byMode

Area type: 0-rectangle area, 1-polygon area.

byRes1

Reserved.

struRect

Rectangle area, see details in the structure **NET VCA RECT**.

struPolygon

Polygon area, see details in the structure **NET ITC POLYGON**.

byRes

Reserved.

5.1.96 NET ITC POLYGON

Polygon information structure.

Structure Definition

Members

dwPointNum

Number of valid points, which should be larger than and equal to 3, if three points are on a straight line, or the lines crossed, it indicates the invalid region.

struPo

Polygon boundary points, the maximum number is 20, refer to the structure **<u>NET_VCA_POINT</u>** for details.

5.1.97 NET_ITC_POST_HVT_PARAM_V50

Structure about the extended parameters of the mixed-traffic checkpoint.

struct{			
BYTE	byLaneNum;		
BYTE	byCapType;		

```
BYTE
                 byCapMode;
BYTE
                 bySceneMode;
BYTE
                 bySpeedMode;
BYTE
                 byLineRuleEffect;
BYTE
                 byRes1[78];
NET_ITC_LINE
                     struLeftTrigLine;
NET ITC LINE
                     struRigtTrigLine;
NET_ITC_LINE
                     struLaneBoundaryLine;
                        struDetectArea;
NET_ITC_POLYGON
NET_DVR_GEOGLOCATION
                           struGeogLocation;
NET_ITC_LANE_HVT_PARAM_V50 struLaneParam[MAX_ITC_LANE_NUM/*6*/];
NET_ITC_PLATE_RECOG_PARAM struPlateRecog;
                 byRes2[260];
}NET_ITC_POST_HVT_PARAM_V50, *LPNET_ITC_POST_HVT_PARAM_V50;
```

Members

byLaneNum

Number of recognized lanes, ranging from 1 to 6.

byCapType

Capture type: 0-motor vehicle, non-motor vehicle and pedestrian (default), 1-motor vehicle.

byCapMode

Capture mode: 0-video frame extracting, 1-interrupt and capture, 2-mixed mode.

bySceneMode

Scene type: 0-city roads (default), 1-community entrance and exit, 2-highway.

bySpeedMode

Speed detection mode: 0-no speed detection, 1-radar speed detection, 2-video speed detection.

byLineRuleEffect

Validity of triggering rule line, each bit represents a triggering rule line, bit0-left triggering rule line, bit1-right triggering rule line, bit2-video detection area.

byRes1

Reserved, set to 0.

struLeftTrigLine

Left triggering line, which is a vertical line.

struRigtTrigLine

Right triggering line, which is a vertical line.

struLaneBoundaryLine

Border line of the lane, which is the right border line of the rightmost lane.

struDetectArea

Video detection area, see details in the structure **NET ITC POLYGON**.

struGeogLocation

Address and location, see details in the structure **NET_DVR_GEOGLOCATION**.

struLaneParam

Properties of a single lane, each array indicates a kind of lane information, see details in the structure **NET ITC LANE HVT PARAM V50**.

struPlateRecog

License plate recognition parameters, see details in the structure **NET ITC PLATE RECOG PARAM**.

byRes2

NET ITC TRIGGER PARAM UNION

5.1.98 NET_ITC_POST_IMT_PARAM

Structure about configuration parameters for smart monitoring.

Structure Definition

```
struct{
BYTE
                byEnable;
BYTE
                byLaneNum;
BYTE
                bySnapMode;
                byRes[61];
BYTE
NET_ITC_PLATE_RECOG_PARAM struPlateRecog;
NET ITC LINE
                    struLaneBoundaryLine;
NET_ITC_LANE_IMT_PARAM
                           struLaneParam[MAX ITC LANE NUM/*6*/];
                byRes1[1584];
}NET_ITC_POST_IMT_PARAM, *LPNET_ITC_POST_IMT_PARAM;
```

Members

byEnable

Whether to enable smart monitoring mode: 0-disable, 1-enable.

byLaneNum

Number of recognized lanes, ranging from 1 to 6.

bySnapMode

Capture type: 0-motor vehicle, 1-motor vehicle, non-motor vehicle, and pedestrian.

byRes

Reserved, set to 0.

struPlateRecog

License plate recognition parameters, see details in the structure

NET ITC PLATE RECOG PARAM.

struLaneBoundaryLine

Lane boundary line, which is the left boundary line of the leftmost lane, see details in the structure **NET ITC LINE** .

struLaneParam

Properties of a single lane, see details in the structure **NET ITC LANE IMT PARAM**.

byRes1

Reserved, set to 0.

See Also

NET ITC TRIGGER PARAM UNION

5.1.99 NET_ITC_POST_IOSPEED_PARAM

Structure about checkpoint IO speed detection parameters.

Structure Definition

Members

struPlateRecog

License plate recognition parameters, see details in the structure

<u>NET_ITC_PLATE_RECOG_PARAM</u> .

struSingleIOSpeed

Parameters of a single IO speed detection group, see details in the structure **<u>NET_ITC_SINGLE_IOSPEED_PARAM</u>**.

byRes

Reserved.

See Also

NET ITC TRIGGER PARAM UNION

5.1.100 NET ITC POST MOBILE PARAM

Structure about mobile traffic triggering parameters.

Structure Definition

```
struct{
BYTE byEnable;
BYTE bySceneMode;
WORD wExpressWayCapType;
WORD wUrbanRoadCapType;
BYTE byCapNum;
BYTE byRecordEnable;
DWORD dwPreRecordTime;
DWORD dwOverRecordTime;
BYTE byRes[256];
}NET_ITC_POST_MOBILE_PARAM, *LPNET_ITC_POST_MOBILE_PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes.

bySceneMode

Scene mode: 0-highway, 1-city road.

wExpressWayCapType

Highway capture type, represented by bit: bit0-checkpoint, bit1-large-sized vehicle occupying lane, bit2-driving on hard shoulder.

wUrbanRoadCapType

City road capture type, represented by bit: bit0-checkpoint, bit1-motor vehicle on non-motor vehicle lane, bit2-occupying dedicated lane.

byCapNum

Number of captured pictures, ranging from 2 to 3.

byRecordEnable

Whether to enable violation recording: 0-no, 1-yes.

dwPreRecordTime

Pre-record time, unit: second.

dwOverRecordTime

Recording timeout, unit: second.

byRes

Reserved, set to 0.

See Also

NET ITC TRIGGER PARAM UNION

5.1.101 NET_ITC_POST_MPR_PARAM

Structure about the trigger parameters of multi-frame detection.

Structure Definition

```
struct{
BYTE
                byEnable;
BYTE
                byLaneNum;
BYTE
                bySourceType;
BYTE
                byPicUploadType;
BYTE
                byRoadType;
                byRes2;
BYTE
WORD
                  wCustomDelayTime;
BYTE
                byRes[56];
NET_ITC_LINE
                    struLaneBoundaryLine;
NET ITC PLATE RECOG PARAM struPlateRecog;
                           struLaneParam[MAX_ITC_LANE_NUM/*6*/];
NET_ITC_LANE_MPR_PARAM
                szSceneName[NAME_LEN/*32*/];
char
NET VCA LINE
                     struSnapLine;
                byRes1[392];
}NET_ITC_POST_MPR_PARAM,*LPNET_ITC_POST_MPR_PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes

byLaneNum

Number of recognized lanes

bySourceType

Signal source type, 0-triggered by MPR (triggered by video), 1-troggered by alarm input (inductive loop), 2-triggered by RS-485.

byPicUploadType

Picture uploading type: 0-upload all, 1-forward uploading, 2-backward uploading

byRoadType

Road Mode: 0-entrance/exit, 1-city road, 2-custom, 3-alarm input

byRes2

Reserved

wCustomDelayTime

Custom capture delay time (it is valid when byRoadType is "2"), value range: [0,15000], unit: ms

byRes

Reserved.

struLaneBoundaryLine

Left boundary of left lane, see details in the structure **NET ITC LINE**.

struPlateRecog

ANPR parameters, see details in **NET_ITC_PLATE_RECOG_PARAM**.

struLaneParam

Lane multi-frame detection parameters, see details in NET_ITC_LANE_MPR_PARAM.

szSceneName

Scene name

struSnapLine

Capture line, it valid when camera is mounted at road side, see details in **NET_VCA_LINE**.

byRes1

Reserved.

5.1.102 NET_ITC_POST_PRS_PARAM

Structure about parameters triggering video detection (PRS).

Structure Definition

```
struct{
BYTE
                byEnable;
BYTE
                byLaneNum;
BYTE
                bySourceType;
BYTE
                bySnapMode;
                byCapMode;
BYTE
BYTE
                byNoPlatCarCap;
BYTE
                bySceneMode;
BYTE
                byRes[57];
NET ITC LINE
                    struLaneBoundaryLine;
NET ITC PLATE RECOG PARAM struPlateRecog;
NET_ITC_LANE_PRS_PARAM
                           struLaneParam[MAX_ITC_LANE_NUM/*6*/];
                byRes1[440];
}NET ITC POST PRS PARAM, *LPNET ITC POST PRS PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes.

byLaneNum

Number of recognized lanes.

bySourceType

Signal source type: 0-video detection, 1-linked IO trigger (inductive loops), 2-linked RS-485 triggering signal.

bySnapMode

Capture mode: 0-panorama image, 1-panorama image+feature view.

byCapMode

0-strobe light mode, 1-flash light mode. It is valid when **bySourceType** is set to 0.

byNoPlatCarCap

Whether to capture vehicle without license plate: 0-no, 1-yes.

bySceneMode

Scene mode: 0-normal entrance and exit, 1-toll station (vehicles will stay for longer time), 2-underground parking lot (there will be dark day and night).

byRes

Reserved, set to 0.

struLaneBoundaryLine

Lane boundary line, which is the left boundary line of the leftmost lane, see details in the structure <u>NET_ITC_LINE</u>.

struPlateRecog

License plate recognition parameters, see details in the structure

NET ITC PLATE RECOG PARAM.

struLaneParam

Lane parameters, see details in the structure **NET ITC LANE PRS PARAM**.

byRes1

Reserved, set to 0.

See Also

NET_ITC_TRIGGER_PARAM_UNION

5.1.103 NET_ITC_POST_RS485_PARAM

Trigger parameter structure of RS-485 vehicle detector in the checkpoint.

```
struct{
BYTE byRelatedLaneNum;
BYTE byTriggerSpareMode;
BYTE byFaultToleranceTime;
BYTE byRes1;
NET_ITC_PLATE_RECOG_PARAM struPlateRecog;
NET_ITC_LANE_PARAM struLane[MAX_ITC_LANE_NUM/*6*/];
```

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```
BYTE byRes[32];
}NET_ITC_POST_RS485_PARAM,*LPNET_ITC_POST_RS485_PARAM;
```

Members

byRelatedLaneNum

Number of linked lanes.

byTriggerSpareMode

Trigger mode for spare (when the coil trigger is in fault): 0-none, 1-wireless virtual coil mode, 2-mixed checkpoint mode.

byFaultToleranceTime

Error tolerance time, unit: minute, which is used to check if the vehicle detector has normally worked for maximum time period.

byRes1

Reserved.

struPlateRecog

ANPR parameters, refer to the structure **NET ITC PLATE RECOG PARAM** for details.

struLane

Linked lane parameters, refer to the structure **NET ITC LANE PARAM** for details.

byRes

Reserved.

See Also

NET ITC TRIGGER PARAM UNION

5.1.104 NET_ITC_POST_RS485_RADAR_PARAM

Structure about checkpoint RS-485 radar triggering parameters.

```
struct{
BYTE byRelatedLaneNum;
BYTE byRes1[3];
NET_ITC_PLATE_RECOG_PARAM struPlateRecog;
NET_ITC_LANE_PARAM struLane[MAX_ITC_LANE_NUM/*6*/];
NET_ITC_RADAR_PARAM struRadar;
BYTE byRes[32];
}NET_ITC_POST_RS485_RADAR_PARAM, *LPNET_ITC_POST_RS485_RADAR_PARAM;
```

Members

byRelatedLaneNum

Number of linked lanes.

byRes1

Reserved.

struPlateRecog

License plate recognition parameters, see details in the structure **NET ITC PLATE RECOG PARAM**.

struLane

Linked lane parameters, see details in the structure **NET_ITC_LANE_PARAM** .

struRadar

Radar parameters, see details in the structure **NET_ITC_RADAR_PARAM** .

byRes

Reserved.

See Also

NET_ITC_TRIGGER_PARAM_UNION

5.1.105 NET_ITC_POST_SINGLEIO_PARAM

Structure about single IO triggering parameters.

Structure Definition

Members

struPlateRecog

License plate recognition parameters, see details in the structure NET_ITC PLATE RECOG PARAM .

struSingleIO

Single IO triggering parameters, the array 0 refers to IO 1, the array 1 refers to IO 2, and so on, see details in the structure **NET ITC SINGLEIO PARAM**.

See Also

NET_ITC_TRIGGER_PARAM_UNION

5.1.106 NET_ITC_POST_VTCOIL_PARAM

Structure of MPR trigger parameters in checkpoint.

Structure Definition

```
struct{
BYTE
                byEnable;
BYTE
                byLaneNum;
BYTE
                bySourceType;
BYTE
                byPicUploadType;
BYTE
                byRoadType;
                byRes2;
BYTE
WORD
                  wCustomDelayTime;
BYTE
                byRes[56];
NET_ITC_LINE
                    struLaneBoundaryLine;
NET ITC PLATE RECOG PARAM struPlateRecog;
                           struLaneParam[MAX_ITC_LANE_NUM/*6*/];
NET_ITC_LANE_MPR_PARAM
                szSceneName[NAME_LEN/*32*/];
char
NET VCA LINE
                     struSnapLine;
                byRes1[392];
}NET_ITC_POST_MPR_PARAM,*LPNET_ITC_POST_MPR_PARAM;
```

Members

byEnable

Whether to enable checkpoint MPR trigger mode: 0-no, 1-yes.

byLaneNum

Number of lanes to be recognized.

bySourceType

Signal source type: 0-MPR triggered (video), 1-linked IO triggered (ground coil), 2-linked RS-485 triggered.

byPicUploadType

Picture type to be uploaded: 0-upload all, 1-, 2-

byRoadType

Lane type: 0-entrance and exit, 1-urban road, 2-custom, 3-alarm input.

byRes2

Reserved.

wCustomDelayTime

Custom capture delay time, it is valid when byRoadType is "2", unit: ms, value range: [0,15000].

byRes

Reserved.

struLaneBoundaryLine

Left boundary line of left lane, refer to the structure **<u>NET_ITC_LINE</u>** for details.

truPlateRecog

ANPR parameters, refer to the structure **NET_ITC_LANE_MPR_PARAM** for details.

struLaneParam

MPR lane parameters, refer to the structure **NET ITC PLATE RECOG PARAM** for details.

szSceneName

Scene name.

struSnapLine

Capture line, it is valid only when the camera is mounted at road side, refer to the structure **NET VCA LINE** for details.

byRes1

Reserved.

See Also

NET_ITC_TRIGGER_PARAM_UNION

5.1.107 NET ITC POST MPR PARAM

Structure about the trigger parameters of multi-frame detection.

Structure Definition

```
struct{
BYTE
                byEnable;
BYTE
                byLaneNum;
                bySourceType;
BYTE
BYTE
                byPicUploadType;
                byRoadType;
BYTE
                byRes2;
BYTE
WORD
                 wCustomDelayTime;
BYTE
                byRes[56];
NET_ITC_LINE
                    struLaneBoundaryLine;
NET ITC PLATE RECOG PARAM struPlateRecog;
NET ITC LANE MPR PARAM
                           struLaneParam[MAX ITC LANE NUM/*6*/];
char
               szSceneName[NAME LEN/*32*/];
NET_VCA_LINE
                     struSnapLine;
                byRes1[392];
}NET ITC POST MPR PARAM,*LPNET ITC POST MPR PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes

byLaneNum

Number of recognized lanes

bySourceType

Signal source type, 0-triggered by MPR (triggered by video), 1-troggered by alarm input (inductive loop), 2-triggered by RS-485.

byPicUploadType

Picture uploading type: 0-upload all, 1-forward uploading, 2-backward uploading

byRoadType

Road Mode: 0-entrance/exit, 1-city road, 2-custom, 3-alarm input

byRes2

Reserved

wCustomDelayTime

Custom capture delay time (it is valid when byRoadType is "2"), value range: [0,15000], unit: ms

byRes

Reserved.

struLaneBoundaryLine

Left boundary of left lane, see details in the structure **NET_ITC_LINE** .

struPlateRecog

ANPR parameters, see details in **NET_ITC_PLATE_RECOG_PARAM**.

struLaneParam

Lane multi-frame detection parameters, see details in NET_ITC_LANE_MPR_PARAM.

szSceneName

Scene name

struSnapLine

Capture line, it valid when camera is mounted at road side, see details in **NET_VCA_LINE**.

byRes1

Reserved.

5.1.108 NET_ITC_RADAR_PARAM

Radar parameter structure.

Structure Definition

struct{

BYTE byRadarType;

```
BYTE byLevelAngle;

WORD wRadarSensitivity;

WORD wRadarSpeedValidTime;

BYTE byRes1[2];

float fLineCorrectParam;

int iConstCorrectParam;

BYTE byRes2[8];

NET_ITC_RADAR_PARAM, *LPNET_ITC_RADAR_PARAM;
```

Members

byRadarType

Radar type: 0-no radar, 1-Andoray radar, 2-Olvia, 3-TransMicrowave, 4-radar connecting I/O expansion box (this parameter is only used in checkpoint virtual coil interface and is not used for checkpoint RS-485 radar), 5-Andoray (without radar controller), 0xff-custom type.

byLevelAngle

Angle between the radar and the horizontal line, ranging from 0 degree to 90 degree, the default value is 25 degree.

wRadarSensitivity

Radar sensitivity.

wRadarSpeedValidTime

Radar speed valid time, ranging from 0 to 2000, 0 means it is not supported.

byRes1

Reserved.

fLineCorrectParam

Linear correction parameter (for multiplying operation), ranging from 0.0 to 2.0.

iConstCorrectParam

Constant correction parameter (for adding and subtracting operation), ranging from -100 to 100.

byRes2

Reserved.

Remarks

In the checkpoint RS-485 radar triggering mode, the radar detection vehicle will be detected as soon as the vehicle passes by, which means that the speed and the capture signal are received almost simultaneously. Therefore, **wRadarSpeedValidTime** is invalid in this mode.

5.1.109 NET_ITC_REDLIGHT_PEDESTRIAN_PARAM

Structure about the parameters triggered by pedestrian running the red light.

Structure Definition

```
struct{
BYTE
                  byEnable;
BYTE
                  bySnapNumTimes;
                  byPedesDir;
BYTE
BYTE
                  byDelayTime;
BYTE
                  byStackTargetEnble;
                  byCalibRecogCtrl;
BYTE
BYTE
                  byRes1[2];
NET_ITC_TRAFFIC_LIGHT_PARAM struTrafficLight;
NET_ITC_LINE
                     struStopLine;
NET_ITC_POLYGON
                         struCalibRecog[MAX_CALIB_RECOG_NUM/*2*/];
                 byRes[440];
NET ITC REDLIGHT PEDESTRIAN PARAM, *LPNET ITC REDLIGHT PEDESTRIAN PARAM;
```

Members

byEnable

Whether to enable: 0-disable, 1-enable.

bySnapNumTimes

Number of captured pictures, ranging from 1 to 3, the default value is 3.

byPedesDir

Pedestrian direction: 0-forward, 1-backward, 2-bidirectional.

byDelayTime

Delay time, ranging from 1 to 5, unit: second.

byStackTargetEnble

Whether to overlay the target frame on the captured picture, which means that the pedestrian running the red light on the first captured picture will be marked with a rectangle frame: 0-no, 1-yes.

byCalibRecogCtrl

Manage calibration areas: 0-delete the calibration area, 1-add a calibration area.

byRes1

Reserved, set to 0.

struTrafficLight

Traffic light parameters, see details in the structure **NET ITC TRAFFIC LIGHT PARAM**.

struStopLine

Stop line, see details in the structure **<u>NET_ITC_LINE</u>** .

struCalibRecog

Calibration area, see details in the structure <u>NET_ITC_POLYGON</u>.

byRes

Reserved, set to 0.

See Also

NET ITC TRIGGER PARAM UNION

5.1.110 NET_ITC_RS485_LIGHT_PARAM

Structure about RS-485 access traffic light parameters.

Structure Definition

```
struct{

NET_ITC_SINGLE_RS485_LIGHT_PARAM struRS485Light[MAX_LIGHT_NUM/*6*/];

BYTE byRes[8];

}NET_ITC_RS485_LIGHT_PARAM, *LPNET_ITC_RS485_LIGHT_PARAM;
```

Members

struRS485Light

Single RS-485 access traffic light parameters, see details in the structure **NET ITC SINGLE RS485 LIGHT PARAM**.

byRes

Reserved, set to 0.

See Also

NET ITC LIGHT ACCESSPARAM UNION

5.1.111 NET_ITC_SINGLE_IO_LIGHT_PARAM

Structure about single IO access traffic light parameters.

Structure Definition

```
struct{

BYTE byLightType;

BYTE byRelatedIO;

BYTE byRedLightState;

BYTE byRes[17];

}NET_ITC_SINGLE_IO_LIGHT_PARAM, *LPNET_ITC_SINGLE_IO_LIGHT_PARAM;
```

Members

byLightType

Guiding direction type of the traffic light: 0-left turn signal, 1-straight signal, 2-right turn signal.

byRelatedIO

Linked IO port No., ranging from 1 to 6.

byRedLightState

Red light level status: 0-low-level red light, 1-high-level red light.

byRes

Reserved.

See Also

NET ITC IO LIGHT PARAM

5.1.112 NET_ITC_SINGLE_IOSPEED_PARAM

Structure about a single group of IO speed detection parameters.

```
struct{
BYTE
                     byEnable;
BYTE
                     byTrigCoil1;
BYTE
                     byCoil1IOStatus;
BYTE
                     byTrigCoil2;
BYTE
                     byCoil2IOStatus;
                     byRelatedDriveWay;
BYTE
BYTE
                     byTimeOut;
BYTE
                     byRelatedIOOutEx;
DWORD
                       dwDistance;
BYTE
                     byCapSpeed;
BYTE
                     bySpeedLimit;
BYTE
                     bySpeedCapEn;
BYTE
                     bySnapTimes1;
BYTE
                     bySnapTimes2;
BYTE
                     byBigCarSpeedLimit;
                     byBigCarSignSpeed;
BYTE
BYTE
                     byIntervalType;
                      wInterval1[MAX INTERVAL NUM/*4*/];
WORD
WORD
                      wInterval2[MAX_INTERVAL_NUM/*4*/];
BYTE
                     byRelatedIOOut[MAX_IOOUT_NUM/*4*/];
BYTE
                     byFlashMode;
BYTE
                     byLaneType;
BYTE
                     byCarSignSpeed;
BYTE
                     byUseageType;
NET ITC PLATE RECOG REGION PARAM struPlateRecog[MAX LANEAREA NUM/*2*/];
BYTE
                     by Rela Lane Direction Type;\\
BYTE
                     byLowSpeedLimit;
BYTE
                     byBigCarLowSpeedLimit;
                     byLowSpeedCapEn;
BYTE
 BYTE
                     byEmergencyCapEn;
```

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BYTE **byRes**[27]; }NET_ITC_SINGLE_IOSPEED_PARAM, *LPNET_ITC_SINGLE_IOSPEED_PARAM;

Members

byEnable

Whether to enable: 0-no, 1-yes.

byTrigCoil1

Coil 1 linked IO: 0-IO1, 1-IO2, 2-IO3, 3-IO4, 4-IO5, 5-IO6.

byCoil1IOStatus

Coil 1 IO input port status: 0-falling edge (default), 1-rising edge, 2-rising edge and falling edge, 3-high level, 4-low level.

byTrigCoil2

Cpil 2 linked IO: 0-IO1, 1-IO2, 2-IO3, 3-IO4, 4-IO5, 5-IO6.

byCoil2IOStatus

Coil 2 IO input port status: 0-falling edge (default), 1-rising edge, 2-rising edge and falling edge, 3-high level, 4-low level.

byRelatedDriveWay

Linked lane No.

byTimeOut

Timeout, the default value is 10, unit: second.

byRelatedIOOutEx

Linked IO output port. The output port No. is represented by bit, e.g., bit 0 refers to IO output port 1, bit 1 refers to IO output port 2, and so on. For each bit, 0 means that the output port is not linked, and 1 means that the output port is linked. Up to 8 IO output ports can be linked. This member is compatible with **byRelatedIOOut**.

dwDistance

Coil distance, the default value is 1000, unit: centimeter.

byCapSpeed

Capture triggered speed, the default value is 30, unit: km/h.

bySpeedLimit

Speed limit, the default value is 60, unit: km/h.

bySpeedCapEn

Whether to enable overspeed capture: 0-no, 1-yes.

bySnapTimes1

Coil 1 capture times: 0-not capture (default), other value-number of pictures per burst capture (the maximum value is 5).

bySnapTimes2

Coil 2 capture times (the default value is 1): 0-not capture, other value-number of pictures per burst capture (the maximum value is 5).

byBigCarSpeedLimit

Speed limit for large-sized vehicle.

byBigCarSignSpeed

Marked speed limit for large-sized vehicle, unit: km/h.

byIntervalType

Interval type: 0-time (default), 1-distance.

wInterval1

Coil 1 burst interval (unit: millisecond) or burst distance (unit: decimeter). The burst interval type is determined by **byIntervalType**.

wInterval2

Coil 2 burst interval (unit: millisecond) or burst distance (unit: decimeter). The burst interval type is determined by **byIntervalType**.

byRelatedIOOut

Linked IO output port. Multiple ports can be linked simultaneously. The array 0 refers to IO output port 1, the array 1 refers to IO output port 2, and so on. 0 means that the output port is not linked, and 1 means that the output port is linked.

byFlashMode

Flashing mode of the flash light: 0-simultaneous, 1-sequential.

byLaneType

Lane type: 0-unconfigured, 1-highway, 2-city express way, 0xff-other way.

byCarSignSpeed

Marked speed limit for small-sized vehicle, unit: km/h.

byUseageType

Lane usage type, see details in the structure ITC LANE USEAGE TYPE.

struPlateRecog

License plate recognition parameters, see details in the structure

<u>NET_ITC_PLATE_RECOG_REGION_PARAM</u>. One license plate recognition area is available, and the other one is reserved.

byRelaLaneDirectionType

Linked lane direction type, see details in the structure ITC RELA LANE DIRECTION TYPE.

byLowSpeedLimit

Minimum speed limit for small-sized vehicle, unit: km/s.

byBigCarLowSpeedLimit

Minimum speed limit for large-sized vehicle, unit: km/s.

byLowSpeedCapEn

Whether to enable low speed capture: 0-no, 1-yes.

byEmergencyCapEn

Whether to enable occupying emergency lane capture: 0-no, 1-yes.

byRes

Reserved.

See Also

NET ITC POST IOSPEED PARAM

5.1.113 NET_ITC_SINGLE_IOTL_PARAM

Structure about a single group of IO traffic light parameters for the intersection violation system.

Structure Definition

```
struct{
BYTE
                    byEnable;
BYTE
                    byLightIO;
BYTE
                    byTrafficLight;
BYTE
                    byTrigIO;
                    byTrigIOStatus;
BYTE
BYTE
                    byRelatedDriveWay;
 BYTE
                    byRecordEnable;
BYTE
                    byRecordType;
 BYTE
                    byPreRecordTime;
BYTE
                    byRecordDelayTime;
                    byRecordTimeOut;
BYTE
BYTE
                    byRedSnapTimes;
BYTE
                    byGreenSnapTimes;
                    byRelatedIOOutEx;
BYTE
BYTE
                    byRes1;
BYTE
                    byIntervalType;
WORD
                      wRedInterval[MAX_INTERVAL_NUM/*4*/];
WORD
                      wGreenInterval[MAX_INTERVAL_NUM/*4*/];
BYTE
                    byRelatedIOOut[MAX IOOUT NUM/*4*/];
BYTE
                    byFlashMode;
BYTE
                    byRes2[3];
NET_ITC_PLATE_RECOG_REGION_PARAM struPlateRecog[MAX_LANEAREA_NUM/*2*/];
                    byRes[32];
}NET_ITC_SINGLE_IOTL_PARAM, *LPNET_ITC_SINGLE_IOTL_PARAM;
```

Members

byEnable

Whether to enable: 0-no, 1-yes.

byLightIO

Traffic light IO: 0-IO1, 1-IO2, 2-IO3, 3-IO4, 4-IO5, 5-IO6.

byTrafficLight

Valid status of the traffic light: 0-high-level red light and low-level green light, 1-high-level green light and low-level red light.

byTrigIO

Triggered IO port No.: 0-IO1, 1-IO2, 2-IO3, 3-IO4, 4-IO5, 5-IO6.

byTrigIOStatus

Triggered IO port status: 0-falling edge (default), 1-rising edge, 2-rising edge and falling edge, 3-high level, 4-low level.

byRelatedDriveWay

Linked lane No.

byRecordEnable

Whether to record by cycle for running red light event: 0-no, 1-yes.

byRecordType

Recording type for running red light event: 0-pre-record, 1-post-record.

byPreRecordTime

Pre-record time for running red light event, the default value is 0, unit: second.

byRecordDelayTime

Post-record time for running red light event, the default value is 0, unit: second.

byRecordTimeOut

Cycle recording timeout for running red light event, unit: second.

byRedSnapTimes

Red light capture times: 0-not capture, other value-number of pictures per burst capture (the maximum value is 5).

byGreenSnapTimes

Green light capture times: 0-not capture, other value-number of pictures per burst capture (the maximum value is 5).

byRelatedIOOutEx

Linked IO output port. The output port No. is represented by bit, e.g., bit 0 refers to IO output port 1, bit 1 refers to IO output port 2, and so on. For each bit, 0 means that the output port is not linked, and 1 means that the output port is linked. Up to 8 IO output ports can be linked. This member is compatible with **byRelatedIOOut**.

byRes1

Reserved.

byIntervalType

Interval type: 0-time (default), 1-distance.

wRedInterval

Burst time (unit: millisecond) or burst distance (unit: decimeter) of the red light. The burst interval type is determined by **byIntervalType**.

wGreenInterval

Burst time (unit: millisecond) or burst distance (unit: decimeter) of the green light. The burst interval type is determined by **byIntervalType**.

byRelatedIOOut

Linked IO output port. Multiple ports can be linked simultaneously.

byFlashMode

Flashing mode of the flash light: 0-simultaneous, 1-sequential.

byRes2

Reserved.

struPlateRecog

License plate recognition area parameters, see details in the structure **NET ITC PLATE RECOG REGION PARAM**.

byRes

Reserved.

See Also

NET ITC EPOLICE IOTL PARAM

5.1.114 NET_ITC_SINGLE_RS485_LIGHT_PARAM

Structure about single RS-485 access traffic light parameters.

Structure Definition

```
struct{
BYTE byLightType;
BYTE byRelatedLightChan;
BYTE byInputLight;
BYTE byRelatedYLightChan;
BYTE byRes[16];
}NET_ITC_SINGLE_RS485_LIGHT_PARAM, *LPNET_ITC_SINGLE_RS485_LIGHT_PARAM;
```

Members

byLightType

Guiding direction type of the traffic light: 0-left turn signal, 1-straight signal, 2-right turn signal.

byRelatedLightChan

No. of the traffic light detector channel linked to the red light, ranging from 0 to 16, 0 indicates no red light.

byInputLight

Accessed traffic light type: 0-access red light, 1-access green light. It is not supported by ITS cameras.

byRelatedYLightChan

No. of the traffic light detector channel linked to the yellow light, ranging from 0 to 16, 0 indicates no yellow light.

byRes

Reserved, set to 0.

Remarks

For example, if the traffic light types in the intersection includes left turn+straight and right turn, you need to configure three arrays. The first array is for left turn signal and linked to detector channel 1, the second array is for straight signal and linked to detector channel 1, and the third array is for right turn signal and linked to detector channel 2.

See Also

NET ITC RS485 LIGHT PARAM

5.1.115 NET ITC SINGLE TRIGGERCFG

A single triggering parameter structure

Structure Definition

```
struct{
BYTE byEnable;
BYTE byRes1[3];
DWORD dwTriggerType;
NET_ITC_TRIGGER_PARAM_UNION uTriggerParam;
BYTE byRes[64];
}NET_ITC_SINGLE_TRIGGERCFG,*LPNET_ITC_SINGLE_TRIGGERCFG;
```

Member

byEnable

Whether to enable: 0-disable, 1-enable

byRes1

Reserved, set to 0

dwTriggerType

Trigger mode, see details in ITC TRIGGERMODE TYPE.

uTriggerParam

Trigger parameters, see details in the structure **NET_ITC_TRIGGER_PARAM_UNION**.

See Also

NET ITC TRIGGERCFG

5.1.116 NET_ITC_SINGLE_VIDEO_DETECT_LIGHT_PARAM

Structure about the traffic light parameters detected in a single video.

Structure Definition

```
struct{
BYTE
           byLightNum;
BYTE
           byStraightLight;
BYTE
           byLeftLight;
BYTE
           byRightLight;
           byRedLight;
BYTE
BYTE
           byGreenLight;
BYTE
           byYellowLight;
BYTE
           byYellowLightTime;
NET_POS_PARAM struLightRect;
           byRes[24];
}NET_ITC_SINGLE_VIDEO_DETECT_LIGHT_PARAM, *LPNET_ITC_SINGLE_VIDEO_DETECT_LIGHT_PARAM;
```

Members

byLightNum

Number of traffic lights.

byStraightLight

Whether the straight signal is on: 0-no, 1-yes.

byLeftLight

Whether the left turn signal is on: 0-no, 1-yes.

byRightLight

Whether the right turn signal is on: 0-no, 1-yes.

byRedLight

Whether the red light is on: 0-no, 1-yes.

byGreenLight

Whether the green light is on: 0-no, 1-yes.

byYellowLight

Whether the yellow light is on: 0-no, 1-yes.

byYellowLightTime

Yellow light duration used to correct recognition deviation of red light and green light.

struLightRect

Traffic light area, see details in the structure **NET_POS_PARAM**.

byRes

Reserved, set to 0.

See Also

NET ITC VIDEO DETECT_LIGHT_PARAM

5.1.117 NET_ITC_SINGLEIO_PARAM

Structure about single IO parameters.

Structure Definition

```
struct{
BYTE
                byDefaultStatus;
BYTE
                byRelatedDriveWay;
BYTE
                bySnapTimes;
BYTE
                byRelatedIOOutEx;
NET_ITC_INTERVAL_PARAM
                         struInterval;
                byRelatedIOOut[MAX_IOOUT_NUM/*4*/];
BYTE
BYTE
                byFlashMode;
                byEnable;
BYTE
BYTE
                byUseageType;
BYTE
                byEmergencyCapEn;
byRes[32];
}NET_ITC_SINGLEIO_PARAM, *LPNET_ITC_SINGLEIO_PARAM;
```

Members

byDefaultStatus

Default IO triggering status: 0-low level, 1-high level.

byRelatedDriveWay

Linked lane No.

bySnapTimes

Capture times (the default value is 1): 0-not capture, other value-number of pictures per burst capture (the maximum value is 5).

byRelatedIOOutEx

Linked IO output port. The output port No. is represented by bit, e.g., bit 0 refers to IO output port 1, bit 1 refers to IO output port 2, and so on. For each bit, 0 means that the output port is not linked, and 1 means that the output port is linked. Up to 8 IO output ports can be linked. This member is compatible with **byRelatedIOOut**.

struInterval

Capture interval parameters, see details in the structure NET ITC INTERVAL PARAM.

byRelatedIOOut

Linked IO output port. Multiple ports can be linked simultaneously.

byFlashMode

Flashing mode of the flash light: 0-simultaneous, 1-sequential.

byEnable

Whether to enable single IO: 0-no, 1-yes.

byUseageType

Lane usage type, see details in the structure <u>ITC_LANE_USEAGE_TYPE</u>.

byEmergencyCapEn

Whether to enable occupying emergency lane capture: 0-no, 1-yes.

struPlateRecog

License plate recognition area parameters, see details in the structure **NET ITC PLATE RECOG REGION PARAM**.

byRes

Reserved.

See Also

NET ITC POST SINGLEIO PARAM

5.1.118 NET_ITC_TRAFFIC_LIGHT_PARAM

Traffic light parameter structure.

```
struct{
BYTE bySource;
BYTE byRes1[3];
NET_ITC_LIGHT_ACCESSPARAM_UNION struLightAccess;
BYTE byRes[32];
}NET_ITC_TRAFFIC_LIGHT_PARAM, *LPNET_ITC_TRAFFIC_LIGHT_PARAM;
```

Members

bySource

Traffic light accessing source: 0-IO access, 1-RS-485 access, 2-video detection.

byRes1

Reserved, set to 0.

struLightAccess

Traffic light accessing parameters, see details in the structure

NET_ITC_LIGHT_ACCESSPARAM_UNION .

byRes

Reserved, set to 0.

5.1.119 NET_ITC_TRIGGER_PARAM_UNION

Trigger parameter union

Structure Definition

```
union{
DWORD
                     uLen[1070];
NET ITC POST IOSPEED PARAM
                                struIOSpeed;
NET ITC POST SINGLEIO PARAM struSingleIO;
NET ITC POST RS485 PARAM struPostRs485;
NET_ITC_POST_RS485_RADAR_PARAM struPostRadar;
NET_ITC_POST_VTCOIL_PARAM struVtCoil;
NET ITC POST HVT PARAM V50 struHvtV50;
NET_ITC_POST_MPR_PARAM struPostMpr;
NET_ITC_POST_PRS_PARAM struPostPrs:
                             struPostPrs;
NET ITC POST PRS PARAM
NET_ITC_EPOLICE_IOTL_PARAM struIOTL;
NET_ITC_EPOLICE_RS485_PARAM
                              struEpoliceRs485;
NET ITC EPOLICE RS485 PARAM struPERs485;
NET_DVR_VIA_VTCOIL_PARAM
                              struViaVtCoil;
NET ITC POST IMT PARAM
                              struPostImt;
NET IPC POST HVT PARAM
                             strulpcHvt;
NET ITC POST MOBILE PARAM
                                struPostMobile;
NET ITC REDLIGHT PEDESTRIAN PARAM struRedLightPed;
NET ITC NOCOMITY PEDESTRIAN PARAM struNoComityPed;
}NET ITC TRIGGER PARAM UNION,*LPNET ITC TRIGGER PARAM UNION;
```

Members

uLen

Union size, total 4280 bytes (1070*4).

struIOSpeed

(Checkpoint) I/O speed detection parameters, see details in the structure **NET ITC POST IOSPEED PARAM**.

struSingleIO

(Checkpoint) Single I/O parameters, see details in the structure **NET ITC POST SINGLEIO PARAM**.

struPostRs485

(Checkpoint) RS-485 vehicle detector parameters, see details in the structure **NET ITC POST RS485 PARAM**.

struPostRadar

(Checkpoint) RS485 radar parameters, see details in the structure **NET ITC POST RS485 RADAR PARAM**.

struVtCoil

(Checkpoint) Virtual coil parameters, see details in the structure **NET ITC POST VTCOIL PARAM**.

struHvtV50

(Checkpoint) Trigger parameters of mixed checkpoint's video, see details in the structure **NET_ITC_POST_HVT_PARAM_V50**.

struPostMpr

(Checkpoint) Trigger parameters of multi-frame detection (MPR), see details in the structure **NET ITC POST MPR PARAM**.

struPostPrs

(PRS) Video detection trigger parameters, see details in the structure **NET ITC POST PRS PARAM**.

struIOTL

(Intersection violation system) Traffic light signal detector parameters, see details in the structure **NET ITC EPOLICE IOTL PARAM** .

struEpoliceRs485

(Intersection violation system) RS485 vehicle detector parameter, see details in the structure **NET_ITC_EPOLICE_RS485_PARAM** .

struPERs485

RS485 vehicle detector parameters, see details in the structure **NET ITC EPOLICE RS485 PARAM** .

struViaVtCoil

(VIA) Video detection parameters, see details in the structure NET DVR VIA VTCOIL PARAM.

struPostImt

Smart monitoring configuration parameters, see details in the structure **NET ITC POST IMT PARAM**.

strulpcHvt

(Network camera) Mixed checkpoint parameters, see details in the structure **NET IPC POST HVT PARAM**.

struPostMobile

Trigger mode of mobile device, see details in the structure **NET ITC POST MOBILE PARAM**.

struRedLightPed

Trigger parameters of pedestrian red light running, see details in the structure **NET ITC REDLIGHT PEDESTRIAN PARAM**.

struNoComityPed

Trigger parameters of outing of comity to pedestrian, see details in the structure **NET ITC NOCOMITY PEDESTRIAN PARAM**.

See Also

NET ITC SINGLE TRIGGERCFG

5.1.120 NET_ITC_TRIGGERCFG

Trigger parameter structure.

Structure Definition

Members

dwSize

Structure size

struTriggerParam

Single trigger parameter, see details in the structure **NET_ITC_SINGLE_TRIGGERCFG**.

byRes

Reserved, set to 0.

5.1.121 NET_ITC_VIDEO_DETECT_LIGHT_PARAM

Structure about the traffic light parameters detected in the video.

Structure Definition

Members

struTrafficLight

Traffic light parameters detected in a single video, see details in the structure **NET ITC SINGLE VIDEO DETECT LIGHT PARAM**.

byRes

Reserved, set to 0.

See Also

NET ITC LIGHT ACCESSPARAM UNION

5.1.122 NET_ITC_VIOLATION_DETECT_LINE

Structure about violation detection line parameters.

Structure Definition

```
struct{

NET_ITC_LINE struLaneLine;

NET_ITC_LINE struStopLine;

NET_ITC_LINE struRedLightLine;

NET_ITC_LINE struCancelLine;

NET_ITC_LINE struWaitLine;

NET_ITC_LINE struRes[8];

NET_ITC_VIOLATION_DETECT_LINE, *LPNET_ITC_VIOLATION_DETECT_LINE;
```

Members

struLaneLine

Lane line parameters, see details in the structure <u>NET_ITC_LINE</u>.

struStopLine

Stop line parameters, see details in the structure **NET_ITC_LINE** .

struRedLightLine

Triggering line parameters of red light running, see details in the structure **NET_ITC_LINE**.

struCancelLine

Canceling line parameters of triggering location of going straight, see details in the structure **NET ITC LINE**.

struWaitLine

Stop line parameters of waiting area, see details in the structure **NET ITC LINE**.

struRes

Reserved, set to 0.

Remarks

- If the vehicle runs over the triggering line of red light running when the red light is on, the vehicle will be judged to be red light running violation. Generally, the triggering line of red light running is below the triggering line of going straight.
- If the vehicle runs over the canceling line of triggering location of going straight, the vehicle will
 be judged to go straight instead of turning left or right. It is used to judge violation of not driving
 according to the lane guidance.

See Also

NET ITC LANE VIDEO EPOLICE PARAM

5.1.123 NET_ITC_VIOLATION_DETECT_PARAM

Violation detection parameter structure.

```
struct{
DWORD dwVioDetectType;
BYTE byDriveLineSnapTimes;
BYTE byReverseSnapTimes;
WORD wStayTime;
BYTE byNonDriveSnapTimes;
BYTE
       byChangeLaneTimes;
BYTE bybanTimes;
BYTE byDriveLineSnapSen;
WORD wSnapPosFixPixel;
BYTE bySpeedTimes;
BYTE
       byTurnAroundEnable;
BYTE
       by Third Plate Recog Time;\\
BYTE
       byPostSnapTimes;
BYTE byRes1[18];
WORD wStopLineDis;
BYTE byRes[14];
}NET_ITC_VIOLATION_DETECT_PARAM, *LPNET_ITC_VIOLATION_DETECT_PARAM;
```

Members

dwVioDetectType

Violation detection type represented by bit. For each bit, 0 refers to disabling, 1 refers to enabling, see details in the structure *ITC VIOLATION DETECT_TYPE*.

byDriveLineSnapTimes

Number of captured pictures of driving on the lane line, ranging from 2 to 3.

byReverseSnapTimes

Number of captured pictures of worng-way driving, ranging from 2 to 3.

wStayTime

Duration of motor vehicle on non-motor vehicle lane, unit: second. The camera will start capturing after this period.

byNonDriveSnapTimes

Number of captured pictures of motor vehicle on non-motor vehicle lane, ranging from 2 to 3.

byChangeLaneTimes

Number of captured pictures of illegal lane change, ranging from 2 to 3.

bybanTimes

Number of captured pictures of prohibition violation, ranging from 2 to 3.

byDriveLineSnapSen

Sensitivity of driving on the lane line, ranging from 0 to 100.

wSnapPosFixPixel

The minimum offset of the location between the second captured picture and the third captured picture, unit: pixel. It is valid when driving against the traffic light.

bySpeedTimes

Number of captured pictures of illegal overspeed, ranging from 2 to 3.

byTurnAroundEnable

Whether to enable illegal U-turning: 0-no, 1-yes.

byThirdPlateRecogTime

Time of recognizing the third license plate, ranging from 0 to 180, unit: second.

byPostSnapTimes

Number of captured pictures of checkpoint, ranging from 1 to 2.

byRes1

Reserved, set to 0.

wStopLineDis

The minimum distance between the vehicle and the stop line on the second violation picture of the intersection violation system, ranging from 0 to 300, unit: pixel.

byRes

Reserved, set to 0.

See Also

NET ITC LANE VIDEO EPOLICE PARAM

5.1.124 NET_ITS_ILLEGAL_INFO

Traffic violation code structure.

Structure Definition

```
struct{
BYTE bylllegalInfo[MAX_ILLEGAL_LEN/*64*/];
BYTE byRes[256];
}NET_ITS_ILLEGAL_INFO,*LPNET_ITS_ILLEGAL_INFO;
```

Members

bylllegalInfo

Traffic violation code (in character string format)

byRes

Reserved, set to 0.

See Also

NET ITS PLATE RESULT

5.1.125 NET_ITS_OVERLAP_CFG_V50

Extended text overlay parameter structure (V50)

Members

dwSize

Structure size.

byEnable

Whether to enable: 0-no, 1-yes

byRes1

Reserved.

struOverLapItemV50

Character string parameter, refer to the structure <u>NET_ITS_OVERLAP_ITEM_PARAM_V50</u> for details.

struOverLapInfo

Character string details, refer to the structure **NET_ITS_OVERLAP_INFO_PARAM** for details.

byRes

Reserved.

5.1.126 NET ITS OVERLAP INFO PARAM

Structure about the character string to be displayed.

Structure Definition

```
struct{

BYTE bySite[128];

BYTE byRoadNum[32];

BYTE byInstrumentNum[32];

BYTE byDirection[32];

BYTE byDirectionDesc[32];

BYTE byLaneDes[32];

BYTE byRes1[32];

BYTE byMonitoringSite1[44];

BYTE byMonitoringSite2[32];

BYTE byRes[64];

NET_ITS_OVERLAP_INFO_PARAM,*LPNET_ITS_OVERLAP_INFO_PARAM;
```

Members

bySite

Location description.

byRoadNum

Intersection No.

byInstrumentNum

Device No.

byDirection

Direction No.

byDirectionDesc

Direction description.

byLaneDes

Lane description

byRes1

Reserved, set to 0.

byMonitoringSite1

Information of camera No.1

byMonitoringSite2

Information of camera No.2

byRes

Reserved, set to 0.

See Also

NET ITS OVERLAP_CFG_V50

5.1.127 NET_ITS_OVERLAP_ITEM_PARAM_V50

Structure about configuration parameters for overlaying characters

```
DWORD
                  dwLinePercent;
DWORD
                  dwItemsStlye;
WORD
                  wStartPosTop:
WORD
                  wStartPosLeft;
WORD
                  wCharStyle;
WORD
                  wCharSize;
WORD
                  wCharInterval;
BYTE
                 byRes1[2];
                  dwForeClorRGB;
DWORD
DWORD
                  dwBackClorRGB;
BYTE
                 byColorAdapt;
BYTE
                 byParamFillZeroEnble;
BYTE
                 byPlateLeftCornerEnable;
BYTE
                 byRes2;
WORD
                  wStartSPicPosTop;
```

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WORD **wStartSPicPosLeft**;

BYTE **byOsdLocate**; BYTE **byRes**[63];

}NET_ITS_OVERLAP_ITEM_PARAM_V50, *LPNET_ITS_OVERLAP_ITEM_PARAM_V50;

Members

struSingleItem

Single character parameter.

dwLinePercent

Percentage of overlayed lines, ranges from 0 to 100, the default value is 100.

dwItemsStlye

Overlaying type: 0-horizontal (default), 1-vertical.

wStartPosTop

The coordinate of top starting point, it is only valid for overlaying within the picture, ranges from 0 to 2,448, the default value is 0.

wStartPosLeft

The coordinate of left starting point, it is only valid for overlaying within the picture, ranges from 0 to 2,448, the default value is 0.

wCharStyle

Font type: 0-SimSun, 1-STXinwei (default).

wCharSize

Character size: 0-16*16, 1-32*32, 2-48*48, 3-64*64 (default), 4-128*128.

wCharInterval

Space distance between two characters, ranges from 0 to 16, available unit: pixel (default).

byRes1

Reserved, set to 0.

dwForeClorRGB

RGB value of foreground color:

See Also

5.1.128 NET_ITS_OVERLAP_SINGLE_ITEM_PARAM_V50

Structure about overlaying single character information.

Structure Definition

```
struct{

BYTE byRes1[2];

BYTE byItemType;

BYTE byChangeLineNum;

BYTE bySpaceNum;

BYTE byRes2[2];

BYTE byEnablePos;

WORD wStartPosTop;

WORD wStartPosLeft;

BYTE byItemTypeCustom[32];

BYTE byRes[8];

NET_ITS_OVERLAP_SINGLE_ITEM_PARAM_V50, *LPNET_ITS_OVERLAP_SINGLE_ITEM_PARAM_V50;
```

Members

byRes1

Reserved.

byItemType

Type, see details in the structure ITS OVERLAP ITEM TYPE.

byChangeLineNum

Number of line feeds after overlaying items, ranges from 0 to 10, the default value is 0.

bySpaceNum

Number of spaces after overlaying items, ranges from 0 to 255, the default value is 0.

byRes2

Reserved.

byEnablePos

Whether to enable displaying coordinates: 0-no, 1-yes.

wStartPosTop

The coordinate of top starting point, it is only valid for overlaying within the picture, ranges from 0 to 2,448, the default value is 0.

wStartPosLeft

The coordinate of left starting point, it is only valid for overlaying within the picture, ranges from 0 to 2,448, the default value is 0.

byItemTypeCustom

Custom type, corresponds to the parameter **byltemType**, customize type name for **byltemType** parameter. If **byltemTypeCustom** is "NULL", the type name of **byltemType** parameter will be used by default.

byRes

Reserved.

See Also

NET_ITS_OVERLAP_ITEM_PARAM_V50

5.1.129 NET_ITS_OVERLAPCFG_COND

Structure about the OSD configuration conditions.

Structure Definition

```
struct{
    DWORD dwSize;
    DWORD dwChannel;
    DWORD dwConfigMode;
    BYTE byPicModeType;
    BYTE byRes[15];
}NET_ITS_OVERLAPCFG_COND,*LPNET_ITS_OVERLAPCFG_COND;
```

Members

dwSize

Structure size

dwChannel

Channel No.

dwConfigMode

Configuration mode: 0-via client software, 1-access device via web browser to configure

byPicModeType

Picture mode: 0-thumbnail, 1-large picture (composite picture)

byRes

Reserved, set to 0

5.1.130 NET_ITS_PLATE_RESULT

ANPR result structure

struct{	
DWORD	dwSize;
DWORD	dwMatchNo;
BYTE	byGroupNum;
BYTE	byPicNo;

```
BYTE
                bySecondCam;
 BYTE
               byFeaturePicNo;
               byDriveChan;
 BYTE
 BYTE
                byVehicleType;
 BYTE
                byDetSceneID;
 BYTE
                byVehicleAttribute;
WORD
                 willegalType;
                bylllegalSubType[8];
 BYTE
                byPostPicNo;
 BYTE
                byChanIndex;
 BYTE
WORD
                 wSpeedLimit;
 BYTE
                byChanIndexEx;
                byRes2;
 BYTE
 NET DVR PLATE INFO
                         struPlateInfo;
 NET_DVR_VEHICLE_INFO struVehicleInfo;
 BYTE
               byMonitoringSiteID[48];
 BYTE
               byDeviceID[48];
               byDir;
 BYTE
 BYTE
                byDetectType;
                byRelaLaneDirectionType;
 BYTE
 BYTE
                byCarDirectionType;
 DWORD
                  dwCustomIllegalType;
 BYTE
                *plllegalInfoBuf;
                bylllegalFromatType;
 BYTE
                byPendant;
 BYTE
 BYTE
                byDataAnalysis;
 BYTE
                byYellowLabelCar;
 BYTE
                byDangerousVehicles;
 BYTE
               byPilotSafebelt;
               byCopilotSafebelt;
 BYTE
               byPilotSunVisor;
 BYTE
               byCopilotSunVisor;
 BYTE
 BYTE
               byPilotCall;
 BYTE
               byBarrierGateCtrlType;
               byAlarmDataType;
 BYTE
 NET_DVR_TIME_V50
                        struSnapFirstPicTime;
 DWORD
                  dwlllegalTime:
 DWORD
                  dwPicNum:
NET_ITS_PICTURE_INFO struPicInfo[6];
}NET ITS PLATE RESULT, *LPNET ITS PLATE RESULT;
```

Members

dwSize

Structure Size

dwMatchNo

Match ID, which consists of vehicle No., data type, and lane No.

byGroupNum

Number of picture groups (total number of one vehicle picture groups captured by multiple cameras), the default value is 1.

byPicNo

No. of continuously captured picture (if **byPicNo** is **byGroupNum**, it indicates that the last picture is received).

bySecondCam

Whether the picture is captured by the second camera.

byFeaturePicNo

Intersection violation system for red light running, the No. of picture to be set as close-up picture, 0xff-not set.

byDriveChan

Triggered lane No.

byVehicleType

Vehicle type: 0-unknown, 1-bus, 2-truck, 3-car, 4-mini bus, 5-van, 6-pedestrian, 7-two-wheel vehicle, 8-three-wheel vehicle, 9-SUV/MPV, 10-medium bus, 11-motor vehicle, 12-non-motor vehicle, 13-mini car, 14-micro car, 15-pickup truck. Generally, the vehicle type is determined by this member. If this member is set to 0, the vehicle type is determined by the member **byVehicleType** in the structure **NET DVR VEHICLE INFO**.

bvDetSceneID

Detection scene No., 0-invalid, other values: [1,4], for network camera, its value is 0 (not support)

byVehicleAttribute

Vehicle properties, 0-no additional properties, other values: bit1-yellow label vehicle, bit2-danguous goods vehicle, bit value: 0-no, 1-yes.

willegalType

Traffic violation type. When the value of this parameter is 0, see the traffic violation type in **dwCustomIllegalType**.

bylllegalSubType

Sub type of traffic violation.

byPostPicNo

The No. of picture to be set as the checkpoint picture, 0xff-not set.

byChanIndex

Channel No.

wSpeedLimit

Upper limit of speed (it is valid only when overspeed).

byChanIndexEx

byChanIndexEx*256+**byChanIndex** is the actual channel No.

byRes2

Reserved

struPlateInfo

License plate information, see details in the structure **NET_DVR_PLATE_INFO**.

struVehicleInfo

Vehicle information , see details in the structure **NET DVR VEHICLE INFO** .

byMonitoringSiteID

Monitoring point ID

byDeviceID

Device ID

byDir

Detection direction: 1-backward, 2-forward, 3-bidirection, 4-from east to west, 5from south to north, 6-from west to east, 7from north to south, 8-other

byDetectType

Detection type: 0-vehicle detection, 1-triggered by inductive loop, 2- triggered by video detection, 3-multi-frame recognition, 4- triggered by radar, 5-mixed-traffic detection.

byRelaLaneDirectionType

Linked lane direction, see details in <u>ITC_RELA_LANE_DIRECTION_TYPE</u>, which corresponds to the linked lane No.

byCarDirectionType

Vehicle driving direction: 0-from top to bottom in image, 1- from bottom to top in image.

dwCustomIllegalType

Traffic violation type (custom), this parameter is valid only when willegalType is 0.

pIllegalInfoBuf

Violation code, it is valid when **bylllegalFromatType** is 1. The code pointer points to the structure *NET ITS ILLEGAL INFO* .

bylllegalFromatType

Traffic violation information format: 0-digital format, 1-character format

byPendant

Objects hanging on window?: 0-unknown, 1-yes, 2-no

byDataAnalysis

Data analyzed?: 0-no, 1-yes

byYellowLabelCar

Yellow label vehicle? 0-unknown, 1-yes, 2-no

byDangerousVehicles

Dangerous goods vehicle? 0-unknown, 1-yes, 2-no

byPilotSafebelt

Driver wearing safety belt? 0-unknown, 1-yes, 2-no

byCopilotSafebelt

Co-driver wearing safety belt?: 0-unknown, 1-yes, 2-no

byPilotSunVisor

Sun shield of co-driver room opened?: 0-unknown, 1-yes, 2-no

byCopilotSunVisor

Sun shield of co-driver room opened?: 0-unknown, 1-yes, 2-no

byPilotCall

Driver making call? 0-unknown, 1-yes, 2-no

byBarrierGateCtrlType

Barrier control type: 0-open, 1-close.

byAlarmDataType

Alarm data type: 0-real-time data, 1-history data.

struSnapFirstPicTime

Time of first captured picture, unit: ms, see details in the structure **NET DVR TIME V50**.

dwlllegalTime

Violation duration (unit: ms)=time of last captured picture-time of first captured picture

dwPicNum

Number of pictures.

struPicInfo

Picture information, call back one by one, and up to 6 pictures are allowed, see details in the structure **NET ITS PICTURE INFO** .

Remarks

Generally, refer to the parameter **byVehicleType** of this structure for the vehicle type. If **byVehicleType** is 0, refer to the parameter **byVehicleType** of structure **NET DVR VEHICLE INFO**.

5.1.131 NET_ITS_PICTURE_INFO

Captured picture information structure.

Structure Definition

struct{

DWORD dwDataLen;

```
BYTE
          byType;
BYTE
          byDataType;
BYTE
          byCloseUpType;
BYTE
          byPicRecogMode;
            dwRedLightTime;
DWORD
BYTE
          byAbsTime[32];
NET VCA RECT struPlateRect;
NET_VCA_RECT struPlateRecgRect;
BYTE
          *pBuffer;
DWORD
            dwUTCTime;
BYTE
          byCompatibleAblity;
BYTE
          byTimeDiffFlag;
signed char cTimeDifferenceH;
signed char cTimeDifferenceM;
          bvRes2[4]:
}NET_ITS_PICTURE_INFO, *LPNET_ITS_PICTURE_INFO;
```

Members

dwDataLen

Size of media data.

byType

Data type: 0-license plate picture, 1-scene picture, 2-composite picture, 3-close-up picture, 4-binary picture, 5-stream, 6-driver's face thumbnail, 7-co-driver's face thumbnail, 8-non-motor vehicle, 9-pedestrian, 10-raw data, 11-target picture, 12-driver room picture, 13-co-driver room picture, 14-face thumbnail

byDataType

Data uploading type: 0-directly upload, 1-upload URL of cloud storage server

byCloseUpType

Close-up picture type: 0-reserved, 1-non-motor vehicle, 2-pedestrian

byPicRecogMode

Recognition mode: 0-recognize in forward direction, 1-recognize in backward direction

dwRedLightTime

Red light duration, unit: s

byAbsTime

Absolute time: yyyymmddhhmmssxxx, e.g.20090810235959999, the last three bits are milliseconds.

struPlateRect

When **byType** is "1", this parameter indicates the position of license plate on the scene picture, when **byType** is "8" or "9", this parameter indicates the person coordinates. See details in the structure *NET VCA RECT*.

struPlateRecgRect

ANPR region coordinates, when **byType** is "12" or "13", this parameter indicates the coordinates of driver. See details in the structure **NET_VCA_RECT**.

pBuffer

Buffer for saving data.

dwUTCTime

UTC time

byCompatibleAblity

Compatible with capability filed, and it is represented by bit, value: 0-invalid, 1-valid. bit0-whether the parameter **dwUTCTime** is valid.

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".

byRes2

Reserved

Remarks

- If only the scene picture is uploaded, you can capture the close-up view from scene picture according to the parameter **struPlateRecgRect**, and you can also adjust the width and height as required.
- Picture URL format: http://CVMIP:Port/pic? did=DevID&bid=BlkID&pid=PictureID&ptime=PicTime. E.g., http://10.192.65.140:8009/pic? did=35b9cbd0-8ffa-1031-87e6-0025903c6a50&bid=387&pid=2952790009&ptime=1378106185

CVMIP

IP address of CVM (Cloud Video Management) server.

Port

Port number (default: 8009) of HTTP service provided by CVM (Cloud Video Management) server.

DevID

Device ID of CVS (Cloud Video Server).

BIKID

Device block ID of CVS (Cloud Video Server)

PictureID

Picture ID generated by CVS (Cloud Video Server)

PicTime

Picture timestamp.

5.1.132 NET_POS_PARAM

Region parameter structure.

Structure Definition

```
struct{
WORD wLeft;
WORD wTop;
WORD wRight;
WORD wBottom;
}NET_POS_PARAM, *LPNET_POS_PARAM;
```

Members

wLeft

X-coordinate of the upper-left corner of the boundary frame, value range: [1, 1000].

wTop

Y-coordinate of the upper-left corner of the boundary frame, value range: [1, 1000].

wRight

X-coordinate of the lower-right corner of the boundary frame, value range: [1, 1000].

wBottom

Y-coordinate of the lower-right corner of the boundary frame, value range: [1, 1000].

See Also

NET_ITC_SINGLE_VIDEO_DETECT_LIGHT_PARAM

5.1.133 NET_VCA_DEV_INFO

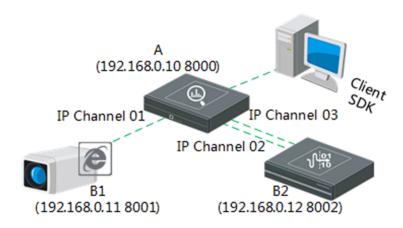
Structure About Camera Information

Member	Data Type	Description
struDevIP	NET_DVR_IPADDR_UN ION	Device IP address
wPort	WORD	Device port No.

Member	Data Type	Description
byChannel	ВҮТЕ	Device channel No.
bylvmsChannel	ВУТЕ	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 bylvmsChannel 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; bylvmsChannel 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; bylvmsChannel 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 bylvmsChannel is 3 in the received alarm message.

5.1.134 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**.

5.1.135 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.

5.1.136 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.

5.2 Enumeration

5.2.1 COUNTRY_INDEX

Enumerate country names.

Enumeration Definition

```
enum{
COUNTRY_NONSUPPORT = 0,
COUNTRY CZE
COUNTRY FRA
                = 2,
COUNTRY_DEU
                = 3,
COUNTRY_ESP
               = 4,
COUNTRY_ITA
               = 5,
COUNTRY_NLD
               = 6,
COUNTRY_POL
               = 7,
COUNTRY SVK
               = 8,
COUNTRY BLR
               = 9.
COUNTRY_MDA
               = 10,
COUNTRY_RUS
               = 11,
COUNTRY UKR
               = 12,
COUNTRY_BEL
               = 13,
COUNTRY_BGR
              = 14,
COUNTRY_DNK
                = 15,
COUNTRY_FIN
               = 16,
COUNTRY_GBR
              = 17,
COUNTRY_GRC
               = 18,
COUNTRY_HRV
               = 19,
COUNTRY_HUN
                = 20,
COUNTRY_ISR
              = 21,
COUNTRY_LUX
               = 22,
COUNTRY MKD
               = 23,
COUNTRY NOR
              = 24,
COUNTRY_PRT
               = 25,
COUNTRY_ROU
                = 26,
COUNTRY_SRB
                = 27,
COUNTRY_AZE
               = 28,
COUNTRY_GEO
              = 29,
COUNTRY_KAZ
               = 30,
COUNTRY_LTU
               = 31,
COUNTRY_TKM
               = 32,
COUNTRY_UZB
               = 33,
COUNTRY LVA
               = 34,
COUNTRY_EST
               = 35,
COUNTRY_ALB
               = 36,
                = 37,
COUNTRY_AUT
COUNTRY_BIH
               = 38,
COUNTRY_IRL
               = 39,
```

```
COUNTRY ISL
                = 40.
COUNTRY_VAT
                = 41,
                 = 42,
COUNTRY MLT
COUNTRY SWE
                 = 43.
COUNTRY_CHE
                = 44,
COUNTRY_CYP
                = 45,
COUNTRY_TUR
                 = 46,
COUNTRY_SVN
                = 47.
                 = 48,
COUNTRY_MTG
COUNTRY_KOV
                 = 49,
COUNTRY_ADR
                 = 50,
COUNTRY ARM
                 = 51,
COUNTRY_MON
                 = 52,
COUNTRY LIE
                = 53,
COUNTRY_SMO
                 = 54.
COUNTRY_RES1
                 = 55,
COUNTRY_RES2
                 = 56,
COUNTRY RES3
                 = 57,
COUNTRY_RES4
                 = 58,
COUNTRY_CHI
                = 59,
COUNTRY_IBN
                = 60,
COUNTRY_SKR
                = 61,
COUNTRY_LEB
                = 62,
COUNTRY NEP
                = 63,
                = 64,
COUNTRY THA
COUNTRY PAK
                = 65.
COUNTRY_EMI
                = 66,
COUNTRY_BHU
                 = 67,
COUNTRY_OMA
                 = 68,
COUNTRY_KOR
                 = 69,
COUNTRY_PHI
                = 70,
COUNTRY_CAM
                 = 71,
COUNTRY QAT
                = 72,
COUNTRY_KYR
                = 73,
COUNTRY_MAL
                 = 74,
COUNTRY_MLY
                 = 75,
COUNTRY_MOG
                 = 76.
COUNTRY_ARA
                 = 77,
COUNTRY_BRU
                 = 78,
                = 79,
COUNTRY LAO
COUNTRY JAP
                = 80.
COUNTRY_RES19
                = 81,
COUNTRY_PAS
                = 82,
COUNTRY_TAJ
                = 83,
COUNTRY_KUW
                 = 84,
COUNTRY_SYR
                = 85,
COUNTRY_IND
                = 86,
COUNTRY_ISA
                = 87,
COUNTRY_AFG
                = 88,
COUNTRY_LAN
                = 89,
COUNTRY IRQ
                = 90,
COUNTRY_VIE
                = 91,
```

```
COUNTRY IRA
               = 92.
COUNTRY_YEM
                = 93,
                = 94.
COUNTRY JOR
COUNTRY BUR
                = 95.
               = 96,
COUNTRY_SIK
COUNTRY_BAN
                = 97,
COUNTRY SGA
                = 98,
COUNTRY_EAT
               = 99.
                = 100,
COUNTRY_RES5
COUNTRY_RES6
                = 101,
COUNTRY_RES7
                = 102,
COUNTRY_RES8
                = 103,
COUNTRY_EGT
               = 104,
               = 105,
COUNTRY LIY
COUNTRY_SUA
               = 106.
COUNTRY_TUN
                = 107,
COUNTRY_ALG
               = 108,
COUNTRY MCC
                = 109,
COUNTRY_ETH
               = 110,
COUNTRY_ERI
               = 111,
COUNTRY_SDE
                = 112,
COUNTRY_DJI
               = 113,
COUNTRY_KEN
                = 114,
COUNTRY_TAI
               = 115,
                = 116,
COUNTRY UGA
COUNTRY RWA
                = 117.
COUNTRY_BUD
              = 118,
COUNTRY_SEY
               = 119,
COUNTRY_CHA
                = 120,
COUNTRY_CEA
                = 121.
                = 122,
COUNTRY_CON
COUNTRY_EQG
             = 123,
COUNTRY GAB
             = 124,
COUNTRY_TCO
               = 125,
COUNTRY_DRC
               = 126,
COUNTRY_STP
                = 127,
COUNTRY MAN
                = 128.
COUNTRY_WSA
                = 129.
COUNTRY_SEL
               = 130,
COUNTRY TGA
              = 131,
COUNTRY_MAI
               = 132,
               = 133,
COUNTRY_BUF
COUNTRY_GUI
               = 134,
COUNTRY_GUB
                = 135,
COUNTRY_CAV
                = 136,
               = 137,
COUNTRY_SLE
COUNTRY_LIR
               = 138,
COUNTRY_IVC
               = 139,
COUNTRY_GHA
                = 140,
COUNTRY_TGO
                = 141,
COUNTRY BEN
                = 142,
COUNTRY_NIG
                = 143,
```

```
COUNTRY ZAB
                = 144.
COUNTRY ANG
                = 145,
COUNTRY ZBE
                = 146,
COUNTRY MAW
                = 147.
COUNTRY_MOQ
                 = 148,
COUNTRY_BOT
                = 149,
COUNTRY NAM
                 = 150,
COUNTRY_SAF
                = 151,
COUNTRY_SWD
                = 152,
               = 153,
COUNTRY_LES
COUNTRY_MAG
                = 154,
COUNTRY_UOC
                = 155,
COUNTRY_MAT
                = 156,
COUNTRY NGE
                = 157,
COUNTRY_SSD
                = 158.
COUNTRY_SAH
               = 159,
COUNTRY_MYT
                = 160,
COUNTRY REN
               = 161,
COUNTRY_CAI
               = 162,
COUNTRY_AZO
                = 163,
COUNTRY_MAD
                 = 164,
COUNTRY_RES9
                = 165,
COUNTRY_RES10
               = 166,
COUNTRY_RES11
                = 167,
COUNTRY RES12
               = 168,
COUNTRY CAD
                = 169.
COUNTRY_GRE
               = 170,
COUNTRY_PIE
               = 171,
COUNTRY_USA
               = 172,
COUNTRY_BER
                = 173,
COUNTRY_MEX
                = 174,
                = 175,
COUNTRY_GUA
COUNTRY BLI
               = 176,
COUNTRY_SAR
               = 177,
COUNTRY_HOR
                = 178,
COUNTRY_NIC
               = 179,
COUNTRY COR
                = 180.
COUNTRY_PAN
                = 181,
COUNTRY_TBM
                = 182,
COUNTRY TCI
               = 183,
              = 184,
COUNTRY CUB
COUNTRY_JAM
              = 185,
COUNTRY_CAY
                = 186,
COUNTRY_HAT
                = 187,
COUNTRY_TDO
                = 188,
               = 189,
COUNTRY_PUR
COUNTRY_VIL
               = 190,
COUNTRY_BVI
               = 191,
COUNTRY_ATV
                = 192,
COUNTRY_ANB
                = 193,
COUNTRY CSM
                = 194,
COUNTRY_ACY
                = 195,
```

```
COUNTRY SBY
               = 196.
COUNTRY SKN
               = 197,
                = 198,
COUNTRY MOT
COUNTRY GLP
               = 199.
COUNTRY_DOM
                = 200,
COUNTRY_MTE
                = 201,
COUNTRY LUC
               = 202,
COUNTRY_SVG
               = 203,
               = 204,
COUNTRY_GRD
COUNTRY_BAR
               = 205,
COUNTRY_TRT
               = 206,
COUNTRY CUR
               = 207,
COUNTRY_ARB
              = 208,
               = 209,
COUNTRY NEA
COUNTRY COL
               = 210.
COUNTRY_VEN
             = 211,
COUNTRY_GUY
             = 212,
COUNTRY SUR
              = 213,
COUNTRY FRN
              = 214,
              = 215,
COUNTRY_ECU
COUNTRY_PER
               = 216,
COUNTRY_BOL
               = 217,
COUNTRY_PAR
               = 218,
COUNTRY CLE
               = 219,
              = 220,
COUNTRY BRA
COUNTRY UGY
             = 221.
COUNTRY_ARG = 222,
COUNTRY_RES13
              = 223,
COUNTRY_RES14
                = 224,
COUNTRY_RES15
                = 225,
COUNTRY_RES16
               = 226,
COUNTRY_ATN
               = 227,
COUNTRY NED
             = 228,
COUNTRY_PNG
               = 229,
COUNTRY_SAN
              = 230,
               = 231,
COUNTRY_VAU
COUNTRY NCN
               = 232.
COUNTRY_PAU
              = 233.
COUNTRY FSM
             = 234,
              = 235,
COUNTRY MRI
COUNTRY CNM
               = 236,
COUNTRY_TEG
               = 237,
COUNTRY_NUR
               = 238,
COUNTRY_KIB
               = 239,
               = 240,
COUNTRY_FID
COUNTRY_TNG
             = 241,
COUNTRY_TUV
               = 242,
COUNTRY_WEF
               = 243,
COUNTRY_TIS
               = 244,
COUNTRY_EAS
               = 245,
COUNTRY_TOE
               = 246,
COUNTRY_NUE
               = 247,
```

```
COUNTRY_PFP = 249,
COUNTRY_PID = 250,
COUNTRY_HAW = 251,
COUNTRY_RES17 = 252,
COUNTRY_RES18 = 253,
COUNTRY_UNRECOGNIZED = 0xfe,
COUNTRY_ALL = 0xff,
COUNTRY_INVALID = 0xfd
}COUNTRY_INDEX
```

Members

COUNTRY_NONSUPPORT

Not support

COUNTRY_CZE

Czech Republic

COUNTRY_DEU

Germany

COUNTRY ESP

Spain

COUNTRY_ITA

Italy

COUNTRY_NLD

Netherlands

COUNTRY_POL

Poland

COUNTRY SVK

Slovakia

COUNTRY BLR

Belorussia

COUNTRY_MDA

Moldova

COUNTRY_RUS

Russia

COUNTRY_UKR

Ukraine

COUNTRY_BEL

Belgium

COUNTRY_BGR

Bulgaria

COUNTRY_DNK

Denmark

COUNTRY_FIN

Finland

COUNTRY_GBR

United Kingdom

COUNTRY_GRC

Greece

COUNTRY_HRV

Croatia

COUNTRY_HUN

Hungary

COUNTRY_ISR

Israel

COUNTRY_LUX

Luxembourg

COUNTRY_MKD

Macedonia

COUNTRY_NOR

Norway

COUNTRY_PRT

Portugal

COUNTRY_ROU

Romania

COUNTRY_SRB

Serbia

COUNTRY_AZE

Azerbaijan

COUNTRY_GEO

Georgia

COUNTRY_KAZ

Kazakhstan

COUNTRY_LTU Lithuania COUNTRY_TKM Turkmenistan COUNTRY_UZB Uzbekistan COUNTRY_LVA Latvia COUNTRY_EST Estonia COUNTRY_ALB Albania COUNTRY_AUT Austria COUNTRY_BIH Bosnia and Herzegovina COUNTRY_IRL Ireland COUNTRY_ISL Iceland COUNTRY_VAT Vatican COUNTRY_MLT Malta **COUNTRY_SWE** Sweden COUNTRY_CHE Switzerland COUNTRY_CYP Cyprus COUNTRY_TUR

Turkey
COUNTRY_SVN
Slovenia

COUNTRY_MTG Montenegro COUNTRY_KOV Kosovo COUNTRY_ADR Andorra COUNTRY_ARM Armenia COUNTRY_MON Monaco COUNTRY_LIE Liechtenstein COUNTRY_SMO San Marino COUNTRY_RES1 Reserved COUNTRY_RES2 Reserved COUNTRY_RES3 Reserved COUNTRY_RES4 Reserved /* Asia, 48 countries, in which Cyprus is located on the border of Europe and Asia*/ COUNTRY_CHI China COUNTRY_IBN In bahrain COUNTRY_SKR South Korea COUNTRY_LEB Lebanon COUNTRY_NEP Nepal COUNTRY_THA Thailand

COUNTRY_PAK

Pakistan

COUNTRY_EMI

The united Arab emirates

COUNTRY_BHU

Bhutan

COUNTRY_OMA

Oman

COUNTRY_KOR

North Korea

COUNTRY_PHI

The Philippines

COUNTRY_CAM

Cambodia

COUNTRY_QAT

Qatar

COUNTRY_KYR

Kyrgyzstan

COUNTRY_MAL

The maldives

COUNTRY_MLY

Malaysia

COUNTRY_MOG

Mongolia

COUNTRY_ARA

Saudi Arabia

COUNTRY_BRU

brunei

COUNTRY_LAO

Laos

COUNTRY_JAP

Japan

COUNTRY_RES19

Reserved

COUNTRY_PAS

Palestinian state

COUNTRY_TAJ

Tajikistan

COUNTRY_KUW

Kuwait

COUNTRY_SYR

Syria

COUNTRY_IND

India

COUNTRY_ISA

Indonesia

COUNTRY_AFG

Afghanistan

COUNTRY_LAN

Sri Lanka

COUNTRY_IRQ

Iraq

COUNTRY_VIE

Vietnam

COUNTRY_IRA

Iran

COUNTRY_YEM

yemen

COUNTRY_JOR

Jordan

COUNTRY_BUR

Burma

COUNTRY_SIK

Sikkim

COUNTRY_BAN

Bangladesh

COUNTRY_SGA

Singapore

COUNTRY_EAT **East Timor** COUNTRY_RES5 Reserved COUNTRY_RES6 Reserved COUNTRY_RES7 Reserved COUNTRY_RES8 Reserved /*Africa, 60 countries and regions*/ COUNTRY_EGT Egypt COUNTRY_LIY Libya COUNTRY_SUA Sudan COUNTRY_TUN Tunisia COUNTRY_ALG Algeria COUNTRY_MCC Morocco COUNTRY_ETH Ethiopia COUNTRY_ERI Eritrea **COUNTRY_SDE** Somalia Democratic COUNTRY_DJI Djibouti COUNTRY_KEN Kenya

COUNTRY_TAI
Tanzania

COUNTRY_UGA

Uganda

COUNTRY_RWA

Rwanda

COUNTRY_BUD

Burundi

COUNTRY_SEY

Seychelles

COUNTRY_CHA

Chad

COUNTRY_CEA

Central African

COUNTRY_CON

Cameroon

COUNTRY_EQG

Equatorial Guinea

COUNTRY_GAB

Gabon

COUNTRY_TCO

the Congo

COUNTRY_DRC

Democratic Republic of the Congo

COUNTRY_STP

Sao Tome and Principe

COUNTRY_MAN

Mauritania

COUNTRY_WSA

Western Sahara

COUNTRY_SEL

Senega

COUNTRY_TGA

the Gambia

COUNTRY_MAI

Mali

COUNTRY_BUF

Burkina Faso

COUNTRY_GUI

Guinea

COUNTRY_GUB

Guinea-Bissau

COUNTRY_CAV

Cape Verde

COUNTRY_SLE

Sierra Leone

COUNTRY_LIR

Liberia

COUNTRY_IVC

Ivory Coast

COUNTRY_GHA

Ghana

COUNTRY_TGO

Togo

COUNTRY_BEN

Benin

COUNTRY_NIG

Niger

COUNTRY_ZAB

Zambia

COUNTRY_ANG

Angola

COUNTRY_ZBE

Zimbabwe

COUNTRY_MAW

Malawi

COUNTRY_MOQ

Mozambique

COUNTRY_BOT

Botswana

COUNTRY_NAM

Namibia

COUNTRY_SAF

South Africa

COUNTRY_SWD

Swaziland

COUNTRY_LES

Lesotho

COUNTRY_MAG

Madagasca

COUNTRY_UOC

Union of Comoros

COUNTRY_MAT

Mauritius

COUNTRY_NGE

Nigeria

COUNTRY_SSD

South Sudan

COUNTRY_SAH

Saint Helena

COUNTRY_MYT

Mayotte

COUNTRY_REN

Reunion

COUNTRY_CAI

Canary Islands

COUNTRY_AZO

AZORES

COUNTRY_MAD

Madeira

COUNTRY_RES9

Reserved

COUNTRY_RES10

Reserved

COUNTRY_RES11

Reserved

COUNTRY_RES12

Reserved /*America, 55 countries and regions*/

COUNTRY_CAD

Canada

COUNTRY_GRE

Greenland Nuuk

COUNTRY_PIE

/Pierre and Miquelon

COUNTRY_USA

United States

COUNTRY_BER

Bermuda

COUNTRY_MEX

Mexico

COUNTRY_GUA

Guatemala

COUNTRY_BLI

Belize

COUNTRY_SAR

El Salvador

COUNTRY_HOR

Honduras

COUNTRY_NIC

Nicaragua

COUNTRY_COR

Costa Rica

COUNTRY_PAN

Panama

COUNTRY_TBM

The Bahamas

COUNTRY_TCI

The Turks and Caicos Islands

COUNTRY_CUB

Cuba

COUNTRY_JAM

Jamaica

COUNTRY_CAY

Cayman Islands

COUNTRY_HAT

Haiti

COUNTRY_TDO

The Dominican

COUNTRY_PUR

Puerto Rico

COUNTRY_VIL

The United States Virgin Islands

COUNTRY_BVI

The British Virgin Islands

COUNTRY_ATV

Anguilla The Valley

COUNTRY_ANB

Antigua and Barbuda

COUNTRY_CSM

Collectivite de Saint-Martin

COUNTRY_ACY

Autonomous country

COUNTRY_SBY

Saint-Barthelemy

COUNTRY_SKN

Saint Kitts and Nevis

COUNTRY_MOT

Montserrat

COUNTRY_GLP

Guadeloupe

COUNTRY_DOM

Dominica

COUNTRY_MTE Martinique COUNTRY_LUC St. Lucia COUNTRY_SVG Saint Vincent and the Grenadines COUNTRY_GRD Grenada COUNTRY_BAR **Barbados** COUNTRY_TRT Trinidad and Tobago COUNTRY_CUR Curaao COUNTRY_ARB Aruba COUNTRY_NEA **Netherlands Antilles** COUNTRY_COL Colombia COUNTRY_VEN Venezuela COUNTRY_GUY Guyana COUNTRY_SUR Suriname COUNTRY_FRN **Guyane Francaise** COUNTRY_ECU Ecuador COUNTRY_PER

Peru

COUNTRY_BOL
Bolivia

COUNTRY_PAR Paraguay COUNTRY_CLE Chile COUNTRY_BRA Brazil COUNTRY_UGY Uruguay COUNTRY_ARG Argentina COUNTRY_RES13 Reserved COUNTRY_RES14 Reserved COUNTRY_RES15 Reserved COUNTRY_RES16 Reserved /*Oceania, 25 countries and regions*/ COUNTRY_ATN Australien COUNTRY_NED Neuseeland COUNTRY_PNG Papua New Guinea COUNTRY_SAN Salomonen COUNTRY_VAU Vanuatu COUNTRY_NCN New Caledonia COUNTRY_PAU Palau

COUNTRY_FSM

Federated States of Micronesia

COUNTRY_MRI

Marshall Island

COUNTRY_CNM

Commonwealth of the Northern Mariana Islands

COUNTRY_TEG

The Territory of Guahan

COUNTRY_NUR

Nauru

COUNTRY_KIB

Kiribati

COUNTRY_FID

Fidschi

COUNTRY_TNG

Tonga

COUNTRY_TUV

Tuvalu

COUNTRY_WEF

Wallis et Futuna

COUNTRY_TIS

The Independent State of Samoa

COUNTRY_EAS

Eastern Samoa

COUNTRY_TOE

Tokelau

COUNTRY_NUE

Niue

COUNTRY_TCD

The Cook Islands

COUNTRY_PFP

Polynesie franaise French Polynesia

COUNTRY_PID

Pitcairn Islands

COUNTRY_HAW

Hawaii State

COUNTRY_RES17

Reserved

COUNTRY_RES18

Reserved

COUNTRY_UNRECOGNIZED

Unrecognized

COUNTRY_ALL

ALL

COUNTRY_INVALID

byCountry is invalid and you should use CRIndex, see CR INDEX for details.

5.2.2 CR_INDEX

Enumeration about country or region index.

Enumeration Definition

```
enum{
CR NONSUPPORT = 0,
CR CZE = 1,
CR_FRA
       = 2,
         = 3,
CR_DEU
       = 4,
CR ESP
CR ITA
        = 5,
CR NLD = 6,
CR POL = 7,
CR SVK = 8,
CR_BLR = 9,
CR_MDA = 10,
CR_RUS
CR_UKR
          = 11,
         = 12,
CR_BEL = 13,
CR_BGR = 14,
CR_DNK = 15,
CR_FIN
        = 16,
CR GBR = 17,
        = 18,
CR GRC
         = 19,
CR HRV
CR_HUN = 20,
CR_ISR = 21,
CR LUX = 22,
CR MKD = 23,
CR_NOR = 24,
CR_PRT = 25,
CR_ROU = 26,
CR_SRB
         = 27,
```

```
CR_AZE
          = 28,
CR_GEO
         = 29,
CR KAZ
          = 30,
CR_LTU
          = 31,
CR_TKM
         = 32,
CR_UZB
          = 33,
CR_LVA
          = 34,
CR_EST
          = 35,
CR_ALB
          = 36,
CR_AUT
        = 37,
CR_BIH
       = 38,
CR_IRL
         = 39,
CR_ISL
         = 40,
CR VAT
          = 41,
CR_MLT
          = 42,
CR_SWE
          = 43,
          = 44,
CR_CHE
CR CYP
          = 45,
CR_TUR
       = 46,
CR_SVN
          = 47,
CR_MTG
           = 48,
CR_KOV
          = 49,
CR_ADR
          = 50,
CR_ARM
         = 51,
CR MON
          = 52,
CR_LIE
         = 53,
CR_SMO
         = 54,
CR_RES1
         = 55,
CR_RES2
          = 56,
CR_RES3
          = 57,
          = 58,
CR_RES4
CR_CHI
          = 59,
          = 60,
CR_IBN
CR_SKR
          = 61,
CR_LEB
          = 62,
CR_NEP
          = 63,
CR_THA
          = 64,
CR_PAK
          = 65,
CR_EMI
          = 66,
CR BHU
         = 67,
CR_OMA
         = 68,
CR_KOR
          = 69,
CR_PHI
          = 70,
CR_CAM
         = 71,
CR_QAT
          = 72,
CR_KYR
          = 73,
CR_MAL
         = 74,
CR_MLY
          = 75,
CR_MOG
          = 76,
CR_ARA
          = 77,
CR BRU
          = 78,
CR_LAO
          = 79,
```

```
CR_JAP
          = 80,
CR_RES19
         = 81,
CR PAS
          = 82,
CR_TAJ
          = 83,
CR_KUW
          = 84,
CR_SYR
          = 85,
CR_IND
          = 86,
CR_ISA
         = 87,
CR_AFG
          = 88,
CR_LAN
          = 89,
CR_IRQ
          = 90,
CR_VIE
         = 91,
CR_IRA
          = 92,
CR YEM
         = 93,
CR_JOR
          = 94,
          = 95,
CR_BUR
CR_SIK
          = 96,
         = 97,
CR BAN
CR_SGA
          = 98,
CR_EAT
          = 99,
CR_RES5
          = 100,
CR_RES6
          = 101,
CR_RES7
          = 102,
CR_RES8
        = 103,
CR EGT = 104,
CR_LIY
       = 105,
CR_SUA
        = 106,
CR_TUN
         = 107,
CR_ALG
          = 108,
CR_MCC
         = 109,
CR_ETH
          = 110,
CR_ERI
         = 111,
CR_SDE
        = 112,
CR_DJI
         = 113,
CR_KEN
          = 114,
CR_TAI
          = 115,
CR_UGA
          = 116,
CR_RWA
           = 117,
CR_BUD
        = 118,
CR_SEY
        = 119,
CR_CHA
        = 120,
CR_CEA
        = 121,
         = 122,
CR_CON
         = 123,
CR_EQG
CR_GAB
          = 124,
CR_TCO
          = 125,
CR_DRC
          = 126,
CR_STP
          = 127,
          = 128,
CR_MAN
           = 129,
CR_WSA
CR_SEL
          = 130,
CR_TGA
          = 131,
```

```
CR_MAI
          = 132,
CR_BUF
          = 133,
CR GUI
          = 134,
CR GUB
          = 135,
CR_CAV
          = 136,
CR_SLE
          = 137,
CR_LIR
          = 138,
CR_IVC
          = 139,
CR_GHA
         = 140,
CR_TGO
          = 141,
CR_BEN
          = 142,
CR_NIG
          = 143,
CR_ZAB
          = 144,
CR ANG
           = 145,
CR_ZBE
          = 146,
CR_MAW
          = 147,
CR_MOQ
          = 148,
           = 149,
CR BOT
CR_NAM
           = 150,
CR_SAF
          = 151,
CR_SWD
           = 152,
CR_LES
          = 153,
CR_MAG
           = 154,
CR_UOC
         = 155,
CR MAT
         = 156,
CR NGE
         = 157,
CR_SSD
          = 158,
CR_SAH
          = 159,
         = 160,
CR MYT
CR_REN
          = 161,
CR_CAI
         = 162,
CR_AZO
          = 163,
CR_MAD
         = 164,
CR_RES9
           = 165,
CR_RES10
          = 166,
CR_RES11
           = 167,
CR_RES12
           = 168,
CR_CAD
          = 169,
CR_GRE
          = 170,
         = 171,
CR PIE
CR_USA
          = 172,
CR_BER
          = 173,
CR_MEX
           = 174,
CR_GUA
          = 175,
CR_BLI
         = 176,
CR_SAR
          = 177,
CR_HOR
         = 178,
CR_NIC
         = 179,
CR_COR
          = 180,
CR_PAN
          = 181,
CR_TBM
           = 182,
CR_TCI
          = 183,
```

```
CR_CUB
           = 184,
CR_JAM
           = 185,
CR CAY
           = 186,
CR HAT
           = 187,
CR_TDO
           = 188,
CR_PUR
           = 189,
CR_VIL
          = 190,
CR_BVI
          = 191,
\mathsf{CR}\mathsf{\_ATV}
          = 192,
CR_ANB
          = 193,
CR_CSM
          = 194,
CR_ACY
          = 195,
CR_SBY
           = 196,
CR SKN
           = 197,
CR_MOT
           = 198,
           = 199,
CR_GLP
CR_DOM
           = 200,
           = 201,
CR MTE
CR_LUC
           = 202,
CR_SVG
           = 203,
           = 204,
CR_GRD
CR_BAR
           = 205,
CR_TRT
           = 206,
CR_CUR
          = 207,
CR ARB
         = 208,
CR_NEA
          = 209,
CR_COL
          = 210,
CR_VEN
          = 211,
CR_GUY
           = 212,
CR_SUR
           = 213,
CR_FRN
          = 214,
CR_ECU
          = 215,
CR_PER
          = 216,
          = 217,
CR_BOL
CR_PAR
          = 218,
CR_CLE
          = 219,
CR_BRA
           = 220,
CR_UGY
           = 221,
CR_ARG
          = 222,
          = 223,
CR_RES13
CR_RES14
           = 224,
CR_RES15
           = 225,
CR_RES16
           = 226,
CR_ATN
           = 227,
CR_NED
           = 228,
CR_PNG
          = 229,
CR_SAN
           = 230,
CR_VAU
          = 231,
           = 232,
CR_NCN
CR_PAU
           = 233,
CR FSM
           = 234,
CR_MRI
           = 235,
```

```
CR_CNM = 236,
CR_TEG = 237,
CR NUR = 238,
CR_KIB = 239,
CR_FID
          = 240,
CR_TNG
           = 241,
CR_TUV
           = 242,
          = 243,
CR_WEF
CR_TIS = 244,
CR\_EAS = 245,
CR\_TOE = 246,
CR_NUE = 247,
CR_TCD = 248,

CR_PFP = 249,

CR_PID = 250,

CR_HAW = 251,
CR_RES17 = 252,
CR_RES18 = 253,
CR_UNRECOGNIZED = 0xfe,
CR\_ALL = 0xff,
              = 256
CR_TAIWAN
}CR_INDEX
```

Members

CR_NONSUPPORT

Not support

CR_CZE

Czech Republic

CR_DEU

Germany

CR_ESP

Spain

CR_ITA

Italy

CR_NLD

Netherlands

CR_POL

Poland

CR_SVK

Slovakia

CR_BLR

Belorussia

Russia	
CR_UKR	
Ukraine	
CR_BEL	
Belgium	
CR_BGR	
Bulgaria	
CR_DNK	
Denmark	
CR_FIN	
Finland	
CR_GBR	
United Kingdom	
CR_GRC	
Greece	
CR_HRV	
Croatia	
CR_HUN	
Hungary	
CR_ISR	
Israel	
CR_LUX	
Luxembourg	
CR_MKD	
Macedonia	
CR_NOR	
Norway	
CR_PRT	
Portugal	
CR_ROU	
Romania	

CR_MDA

CR_RUS

Moldova

Serbia
CR_AZE
Azerbaijan
CR_GEO
Georgia
CR_KAZ
Kazakhstan
CR_LTU
Lithuania
CR_TKM
Turkmenistan
CR_UZB
Uzbekistan
CR_LVA
Latvia
CR_EST
Estonia
CR_ALB
CR_ALB Albania
_
Albania
Albania CR_AUT
Albania CR_AUT Austria
Albania CR_AUT Austria CR_BIH
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland CR_ISL
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland CR_ISL Iceland
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland CR_ISL Iceland CR_VAT
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland CR_ISL Iceland CR_VAT Vatican
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland CR_ISL Iceland CR_VAT Vatican CR_MLT
Albania CR_AUT Austria CR_BIH Bosnia and Herzegovina CR_IRL Ireland CR_ISL Iceland CR_VAT Vatican CR_MLT Malta

CR_SRB

C	R_CHE
	Switzerland
C	R_CYP
	Cyprus
C	R_TUR
	Turkey
C	R_SVN
	Slovenia
C	R_MTG
	Montenegro
C	R_KOV
	Kosovo
C	R_ADR
	Andorra
C	R_ARM
	Armenia
C	R_MON
	Monaco
C	R_LIE
	Liechtenstein
C	R_SMO
	San Marino
C	R_RES1
	Reserved
C	R_RES2
	Reserved
C	R_RES3
	Reserved
C	R_RES4
	Reserved /* Asia, 48 countries, in which Cyprus is located on the border of Europe and Asia*/
C	R_CHI
	China
C	R_IBN
	In bahrain

CR_SKR

CR_LEB

South Korea

Lebanon

CR_NEP	
Nepal	
CR_THA	
Thailand	
CR_PAK	
Pakistan	
CR_EMI	
The united Arab emirates	
CR_BHU	
Bhutan	
CR_OMA	
Oman	
CR_KOR	
North Korea	
CR_PHI	
The Philippines	
CR_CAM	
Cambodia	
CR_QAT	
Qatar	
CR_KYR	
Kyrgyzstan	
CR_MAL	
The maldives	
CR_MLY	
Malaysia	
CR_MOG	
Mongolia	
CR_ARA	
Saudi Arabia	

CR_LAO
Laos
CR_JAP
Japan
CR_RES19
Reserved
CR_PAS
Palestinian state
CR_TAJ
Tajikistan
CR_KUW
Kuwait
CR_SYR
Syria
CR_IND
India
CR_ISA
Indonesia
CR_AFG
Afghanistan
CR_LAN
Sri Lanka
CR_IRQ
Iraq
CR_VIE
Vietnam
CR_IRA
Iran
CR_YEM
yemen
CR_JOR
Jordan

CR_BRU brunei

CR_BUR
Burma
CR_SIK
Sikkim
CR_BAN
Bangladesh
CR_SGA
Singapore
CR_EAT
East Timor
CR_RES5
Reserved
CR_RES6
Reserved
CR_RES7
Reserved
CR_RES8
Reserved /*Africa, 60 countries and regions*/
CR_EGT
Egypt
CR_LIY
Libya
CR_SUA
Sudan
CR_TUN
Tunisia
CR_ALG
Algeria
CR_MCC
Morocco
CR_ETH
Ethiopia
CR_ERI
Fritrea

Somalia Democratic CR_DJI Djibouti CR_KEN Kenya CR_TAI Tanzania CR_UGA Uganda CR_RWA Rwanda CR_BUD Burundi CR_SEY Seychelles CR_CHA Chad CR_CEA Central African CR_CON Cameroon CR_EQG **Equatorial Guinea** CR_GAB Gabon CR_TCO the Congo CR_DRC Democratic Republic of the Congo CR_STP Sao Tome and Principe CR_MAN Mauritania

CR_SDE

CR_WSA
Western Sahara
CR_SEL
Senega
CR_TGA
the Gambia
CR_MAI
Mali
CR_BUF
Burkina Faso
CR_GUI
Guinea
CR_GUB
Guinea-Bissau
CR_CAV
Cape Verde
CR_SLE
Sierra Leone
CR_LIR
Liberia
CR_IVC
Ivory Coast
CR_GHA
Ghana
CR_TGO
Togo
CR_BEN
Benin
CR_NIG
Niger
CR_ZAB
Zambia
CR_ANG
Angola

Malawi
CR_MOQ
Mozambique
CR_BOT
Botswana
CR_NAM
Namibia
CR_SAF
South Africa
CR_SWD
Swaziland
CR_LES
Lesotho
CR_MAG
Madagasca
CR_UOC
Union of Comoros
CR_MAT
Mauritius
CR_NGE
Nigeria
CR_SSD
South Sudan
CR_SAH
Saint Helena
CR_MYT
Mayotte
CR_REN
Reunion
CR_CAI
Canary Islands

CR_ZBE

CR_MAW

Zimbabwe

CR_AZO
AZORES
CR_MAD
Madeira
CR_RES9
Reserved
CR_RES10
Reserved
CR_RES11
Reserved
CR_RES12
Reserved /*America, 55 countries and regions*/
CR_CAD
Canada
CR_GRE
Greenland Nuuk
CR_PIE
/Pierre and Miquelon
CR_USA
United States
CR_BER
Bermuda
CR_MEX
Mexico
CR_GUA
Guatemala
CR_BLI
Belize
CR_SAR
El Salvador
CR_HOR
Honduras
CR_NIC
Nicaragua

Costa Rica CR_PAN Panama CR_TBM The Bahamas CR_TCI The Turks and Caicos Islands CR_CUB Cuba CR_JAM Jamaica CR_CAY Cayman Islands CR_HAT Haiti CR_TDO The Dominican CR_PUR Puerto Rico CR_VIL The United States Virgin Islands CR_BVI The British Virgin Islands CR_ATV Anguilla The Valley CR_ANB Antigua and Barbuda CR_CSM Collectivite de Saint-Martin CR_ACY **Autonomous CR** CR_SBY Saint-Barthelemy

CR_COR

Saint Kitts and Nevis CR_MOT Montserrat CR_GLP Guadeloupe CR_DOM Dominica CR_MTE Martinique CR_LUC St. Lucia CR_SVG Saint Vincent and the Grenadines CR_GRD Grenada CR_BAR **Barbados** CR_TRT Trinidad and Tobago CR_CUR Curaao CR_ARB Aruba CR_NEA **Netherlands Antilles** CR_COL Colombia CR_VEN Venezuela **CR_GUY** Guyana CR_SUR

Suriname

CR_SKN

CR_FRN **Guyane Francaise** CR_ECU Ecuador CR_PER Peru CR_BOL Bolivia CR_PAR Paraguay CR_CLE Chile CR_BRA Brazil CR_UGY Uruguay CR_ARG Argentina CR_RES13 Reserved CR_RES14 Reserved CR_RES15 Reserved CR_RES16 Reserved /*Oceania, 25 countries and regions*/ CR_ATN Australien CR_NED Neuseeland CR_PNG Papua New Guinea CR_SAN Salomonen

CR_VAU
Vanuatu
CR_NCN
New Caledonia
CR_PAU
Palau
CR_FSM
Federated States of Micronesia
CR_MRI
Marshall Island
CR_CNM
Commonwealth of the Northern Mariana Islands
CR_TEG
The Territory of Guahan
CR_NUR
Nauru
CR_KIB
Kiribati
CR_FID
Fidschi
CR_TNG
Tonga
CR_TUV
Tuvalu
CR_WEF
Wallis et Futuna
CR_TIS
The Independent State of Samoa
CR_EAS
Eastern Samoa
CR_TOE
Tokelau
CR_NUE
Niue

CR_TCD

The Cook Islands

CR_PFP

Polynesie franaise French Polynesia

CR PID

Pitcairn Islands

CR_HAW

Hawaii State

CR_RES17

Reserved

CR_RES18

Reserved

CR UNRECOGNIZED

Unrecognized

CR_ALL

ALL

CR_TAIWAN

Taiwan (China)

5.2.3 ITC_LANE_DIRECTION_TYPE

Enumerate the lane direction type.

```
enum{
ITC_LANE_DIRECTION_UNKNOW = 0,
ITC_LANE_LEFT
ITC_LANE_STRAIGHT = 2,
ITC_LANE_LEFT_STRAIGHT = 3,
ITC_LANE_RIGHT
ITC_LANE_LEFT_RIGHT = 5,
ITC LANE RIGHT STRAIGHT = 6,
ITC LANE LEFT RIGHT STRAIGHT = 7,
ITC_LANE_LEFT_WAIT = 9,
ITC_LANE_STRAIGHT_WAIT = 10,
ITC LANE FORWARD = 11,
ITC LANE BACKWARD
                     = 12,
                   = 13,
ITC_LANE_BOTHWAY
ITC_LANE_STRAIGHT_WAIT_RIGHT = 14
}ITC_LANE_DIRECTION_TYPE
```

Member

ITC_LANE_DIRECTION_UNKNOW

Unknown.

ITC_LANE_LEFT

Turn left.

ITC_LANE_STRAIGHT

Go straight.

ITC_LANE_LEFT_STRAIGHT

Turn left and go straight.

ITC_LANE_RIGHT

Turn right.

ITC_LANE_LEFT_RIGHT

Turn left and turn right.

ITC_LANE_RIGHT_STRAIGHT

Turn right and go straight.

ITC_LANE_LEFT_RIGHT_STRAIGHT

Turn left, turn right and go straight.

ITC_LANE_LEFT_WAIT

Turn left and wait.

ITC_LANE_STRAIGHT_WAIT

Go straight and wait.

ITC_LANE_FORWARD

Drive forward.

ITC_LANE_BACKWARD

Drive backward.

ITC_LANE_BOTHWAY

Drive bidirectionally.

ITC_LANE_STRAIGHT_WAIT_RIGHT

Go straight and wait, and turn right.

5.2.4 ITC_LANE_USEAGE_TYPE

Enumerate the lane usage type.

Enumeration Definition

```
enum {
ITC LANE USEAGE UNKNOW = 0,
ITC_LANE_CARRIAGEWAY = 1,
ITC LANE BUS
ITC LANE FAST
ITC LANE SLOW
                  = 4,
ITC_LANE_MOTOR = 5,
ITC LANE NONMOTOR = 6,
ITC LANE REVERSE LANE = 7,
ITC_LANE_BAN_TRUCKS = 8,
ITC_LANE_MIX
               = 9,
ITC LANE EMERGENCY = 10,
ITC_LANE_BAN_LEFT = 11,
ITC LANE BAN RIGHT = 12
}ITC LANE USEAGE TYPE
```

Member

ITC_LANE_USEAGE_UNKNOW

Unknown.

ITC_LANE_CARRIAGEWAY

Normal lane.

ITC LANE BUS

Bus lane.

ITC_LANE_FAST

Fast lane.

ITC_LANE_SLOW

Slow lane.

ITC_LANE_MOTOR

Motor vehicle lane.

ITC_LANE_NONMOTOR

Non-motor vehicle lane.

ITC_LANE_REVERSE_LANE

Opposite lane.

ITC_LANE_BAN_TRUCKS

Non-truck lane.

ITC_LANE_MIX

All-purpose lane.

ITC_LANE_EMERGENCY

Emergency lane.

ITC_LANE_BAN_LEFT

Lane banning turning left.

ITC_LANE_BAN_RIGHT

Lane banning turning right.

5.2.5 ITC_RELA_LANE_DIRECTION_TYPE

Enumerate the lane directions.

Enumeration Definition

```
enum{
ITC_RELA_LANE_DIRECTION_UNKNOW = 0,
ITC_RELA_LANE_EAST_WEST = 1,
ITC_RELA_LANE_WEST_EAST = 2,
ITC_RELA_LANE_SOUTH_NORTH = 3,
ITC_RELA_LANE_NORTH_SOUTH = 4,
ITC_RELA_LANE_EASTSOUTH_WESTNORTH = 5,
ITC_RELA_LANE_WESTNORTH_EASTSOUTH = 6,
ITC_RELA_LANE_WESTNORTH_WESTSOUTH = 7,
ITC_RELA_LANE_WESTSOUTH_EASTNORTH = 8
}ITC_RELA_LANE_DIRECTION_TYPE
```

Member

ITC_RELA_LANE_DIRECTION_UNKNOW

Other

ITC_RELA_LANE_EAST_WEST

From east to west.

ITC_RELA_LANE_WEST_EAST

From weat to east.

ITC_RELA_LANE_SOUTH_NORTH

From south to north.

ITC_RELA_LANE_NORTH_SOUTH

From north to south.

ITC_RELA_LANE_EASTSOUTH_WESTNORTH

From southeast to northwest.

ITC_RELA_LANE_WESTNORTH_EASTSOUTH

From northwest to southeast.

ITC_RELA_LANE_EASTNORTH_WESTSOUTH

From northeast to southwest.

ITC RELA LANE WESTSOUTH EASTNORTH

From southwest to northeast.

5.2.6 ITC_TRIGGERMODE_TYPE

Enumerate the trigger modes.

Enumeration Definition

```
enum{
ITC POST IOSPEED TYPE
                           = 0x1.
ITC_POST_SINGLEIO_TYPE
                           = 0x2.
ITC_POST_RS485_TYPE = 0x4,
ITC POST RS485 RADAR TYPE
                              = 0x8,
ITC_POST_VIRTUALCOIL_TYPE = 0x10,
ITC_POST_HVT_TYPE_V50 = 0x2
ITC_POST_MPR_TYPE = 0x40,
ITC_POST_PRS_TYPE = 0x80,
                          = 0x20,
ITC EPOLICE_IO_TRAFFICLIGHTS_TYPE = 0x100,
ITC_EPOLICE_RS485_TYPE = 0x200,
= 0x80000,
= 0x100000
ITC POST IMT TYPE
IPC POST HVT TYPE
                          = 0x100000,
|TC_POSI_MOBILE_TYPE| = 0x200000,
ITC_REDLIGHT_PEDESTRIAN_TYPE = 0x400000,
ITC_NOCOMITY_PEDESTRIAN_TYPE = 0x800000
}ITC_TRIGGERMODE_TYPE
```

Member

ITC_POST_IOSPEED_TYPE

Triggered by I/O speed detection (checkpoint)

ITC_POST_SINGLEIO_TYPE

Triggered by single I/O (checkpoint)

ITC_POST_RS485_TYPE

Triggered by RS-485 vehicle detector (checkpoint)

ITC_POST_RS485_RADAR_TYPE

Triggered by RS-485 radar (checkpoint)

ITC_POST_VIRTUALCOIL_TYPE

Triggered by virtual coil (checkpoint)

ITC_POST_HVT_TYPE_V50

Triggered by video (mixed checkpoint)

ITC POST MPR TYPE

Triggered by multi-frame recognition (checkpoint)

ITC_POST_PRS_TYPE

Triggered by video detection

ITC_EPOLICE_IO_TRAFFICLIGHTS_TYPE

Triggered by traffic light signal detector (intersection violation system)

ITC_EPOLICE_RS485_TYPE

Triggered by RS-485 vehicle detector (intersection violation system)

ITC_PE_RS485_TYPE

Triggered by RS-485 vehicle detector (checkpoint violation system)

ITC_VIDEO_EPOLICE_TYPE

Triggered by video (checkpoint violation system).

ITC_VIA_VIRTUALCOIL_TYPE

Triggered by VIA.

ITC_POST_IMT_TYPE

Triggered by smart monitoring.

IPC POST HVT TYPE

Triggered by mixed checkpoint

ITC_POST_MOBILE_TYPE

Triggered by mobile device.

ITC_REDLIGHT_PEDESTRIAN_TYPE

Triggering by pedestrian red light running.

ITC_NOCOMITY_PEDESTRIAN_TYPE

Triggered by outing of comity to pedestrian.

5.2.7 ITC_VIOLATION_DETECT_TYPE

Enumerate violation detection types.

Structure Definition

```
enum {
ITC_VIOLATION_POST = 0x01,
ITC_VIOLATION_DRIVELINE = 0x02,
ITC_VIOLATION_REVERSE = 0x04,
ITC_VIOLATION_REDLIGHT = 0x08,
ITC_VIOLATION_DIRECTION = 0x10,
```

```
ITC VIOLATION INTERSECTION CONGEST = 0x20,
ITC VIOLATION NONDRIVEWAY
                                = 0x40.
ITC VIOLATION CHANGELANE
                                = 0x80.
ITC VIOLATION BAN
                          = 0x100.
ITC_VIOLATION_INTERSECTION_PARK = 0x200,
ITC_VIOLATION_GREEN_PARK
                              = 0x400,
ITC VIOLATION BAN DRIVE
                              = 0x800,
ITC_VIOLATION_ACROSS_YELLOWLINE = 0x1000,
ITC_VIOLATION_HIGH_SPEED = 0x2000,
ITC_VIOLATION_LOW_SPEED = 0x4000,
ITC VIOLATION TURN AROUND = 0x8000,
ITC VIOLATION CONGESTION
                              = 0x10000
}ITC_VIOLATION_DETECT_TYPE
```

Member

ITC VIOLATION POST

Checkpoint capture.

ITC_VIOLATION_DRIVELINE

Driving on the lane line capture.

ITC VIOLATION REVERSE

Wrong-way driving capture.

ITC VIOLATION REDLIGHT

Red light running capture.

ITC_VIOLATION_DIRECTION

Driving against direction guidance capture.

ITC_VIOLATION_INTERSECTION_CONGEST

Overstaying at intersection capture.

ITC VIOLATION NONDRIVEWAY

Motor vehicle on non-motor vehicle lane capture.

ITC VIOLATION CHANGELANE

Illegal lane change.

ITC VIOLATION BAN

Prohibition violation.

ITC_VIOLATION_INTERSECTION_PARK

Stop vehicle over the stop line when the red light is on.

ITC_VIOLATION_GREEN_PARK

Stop vehicle when the green light is on.

ITC_VIOLATION_BAN_DRIVE

Prohibition.

ITC_VIOLATION_ACROSS_YELLOWLINE

Cross the yellow line.

ITC_VIOLATION_HIGH_SPEED

Overspeed (only for checkpoint).

ITC VIOLATION LOW SPEED

Low speed (only for checkpoint).

ITC_VIOLATION_TURN_AROUND

Illegal U-turning.

ITC_VIOLATION_CONGESTION

Congestion.

Remarks

- Crossing the yellow line means capturing lane change or U-turning of vehicles by cameras
 installed by the roadside, and the concept of illegal lane change is the same as that in the
 intersection violation system.
- Prohibition requires capturing all license plates of a specific area, and prohibition violation only captures a specific type of license plates in the lane.

5.2.8 ITS OVERLAP ITEM TYPE

Enumerate character overlay type.

```
enum{
OVERLAP_ITEM_NULL
                         = 0,
OVERLAP ITEM SITE
OVERLAP ITEM ROADNUM,
                            = 2,
OVERLAP ITEM_INSTRUMENTNUM,
OVERLAP ITEM DIRECTION,
OVERLAP_ITEM_DIRECTIONDESC,
                            = 5,
OVERLAP ITEM DIRECTIONDESC, = 6,
                        = 7,
= 8,
OVERLAP_ITEM_LANEDES,
OVERLAP_ITEM_CAPTIME,
OVERLAP_ITEM_CAPTIME_MILLSECOND, = 9,
OVERLAP ITEM PLATENUM,
                           = 10,
OVERLAP_ITEM_CARCOLOR,
                           = 11,
OVERLAP_ITEM_CARTYPE,
                           = 12,
OVERLAP ITEM CARBRAND,
                            = 13.
OVERLAP_ITEM_CARSPEED,
                           = 14.
OVERLAP_ITEM_SPEEDLIMIT,
                           = 15,
OVERLAP_ITEM_CARLENGTH,
                            = 16,
OVERLAP ITEM ILLEGALNUM,
OVERLAP_ITEM_MONITOR_INFO, = 18,
```

```
OVERLAP ITEM ILLEGALDES,
                         = 19.
OVERLAP ITEM OVERSPEED PERCENT, = 20,
OVERLAP ITEM RED STARTTIME, = 21,
OVERLAP ITEM RED STOPTIME,
                             = 22.
OVERLAP_ITEM_RED_DURATION, = 23,
OVERLAP_ITEM_SECUNITY_CODE, = 24,
                        = 25,
= 26,
OVERLAP_ITEM_CAP_CODE,
OVERLAP_ITEM_SEATBELT,
OVERLAP_ITEM_MONITOR_ID, = 27,
OVERLAP_ITEM_SUN_VISOR, = 28,
OVERLAP ITEM LANE DIRECTION, = 29,
OVERLAP_ITEM_LICENSE_PLATE_COLOR, = 30,
OVERLAP ITEM SCENE NUMBER, = 31,
OVERLAP ITEM SCENE NAME,
OVERLAP ITEM YELLOW SIGN CAR, = 33,
OVERLAP_ITEM_DANGEROUS_CAR, = 34,
OVERLAP_ITEM_CAR_SUBBRAND, = 35,
OVERLAP ITEM CAR DIRECTION, = 36,
OVERLAP_ITEM_PENDANT,
                         = 37,
                       = 38,
OVERLAP_ITEM_CALL,
OVERLAP_ITEM_CAR_VALIDITY = 39
}ITS_OVERLAP_ITEM_TYPE
```

Member

OVERLAP_ITEM_NULL

Unknown.

OVERLAP_ITEM_SITE

Location.

OVERLAP_ITEM_ROADNUM

Intersection No.

OVERLAP ITEM INSTRUMENTNUM

Device No.

OVERLAP ITEM DIRECTION

Direction No.

OVERLAP_ITEM_DIRECTIONDESC

Direction.

OVERLAP_ITEM_LANENUM

Lane No.

OVERLAP_ITEM_LANEDES

Lane.

OVERLAP_ITEM_CAPTIME

Capture time (without milliseconds).

OVERLAP_ITEM_CAPTIME_MILLSECOND

Capture time (milliseconds).

OVERLAP_ITEM_PLATENUM

License plate No.

OVERLAP_ITEM_CARCOLOR

Vehicle color.

OVERLAP_ITEM_CARTYPE

Vehicle type.

OVERLAP_ITEM_CARBRAND

Vehicle brand.

OVERLAP_ITEM_CARSPEED

Vehicle speed.

OVERLAP ITEM SPEEDLIMIT

Speed limit sign.

OVERLAP_ITEM_CARLENGTH

Vehicle length, ranges from 1 to 99, unit: m.

OVERLAP_ITEM_ILLEGALNUM

Violation code, actually overlay illegal action information, such as low speed, overspeed, driving in the opposite direction, running the red light, occupying the road, driving over the yellow line, etc.

OVERLAP_ITEM_MONITOR_INFO

Camera information.

OVERLAP_ITEM_ILLEGALDES

Illegal action.

OVERLAP_ITEM_OVERSPEED_PERCENT

Overspeed percentage.

OVERLAP ITEM RED STARTTIME

Red light start time.

OVERLAP_ITEM_RED_STOPTIME

Red light end time.

OVERLAP_ITEM_RED_DURATION

Duration of right light on.

OVERLAP_ITEM_SECUNITY_CODE

Security code.

OVERLAP_ITEM_CAP_CODE

Capture No.

OVERLAP ITEM SEATBELT

Whether to fasten the seat belt.

OVERLAP_ITEM_MONITOR_ID

Camera No.

OVERLAP_ITEM_SUN_VISOR

Sun visor.

OVERLAP_ITEM_LANE_DIRECTION

Driving direction of the lane.

OVERLAP_ITEM_LICENSE_PLATE_COLOR

License plate color.

OVERLAP_ITEM_SCENE_NUMBER

Scene No.

OVERLAP_ITEM_SCENE_NAME

Scene name.

OVERLAP_ITEM_YELLOW_SIGN_CAR

Yellow label vehicle.

OVERLAP_ITEM_DANGEROUS_CAR

Hazardous material truck.

OVERLAP_ITEM_CAR_SUBBRAND

Vehicle sub-brand.

OVERLAP_ITEM_CAR_DIRECTION

Driving direction of the vehicle.

OVERLAP_ITEM_PENDANT

Pendant on the window.

OVERLAP_ITEM_CALL

Talking on the phone.

OVERLAP_ITEM_CAR_VALIDITY

Confidence level.

See Also

NET ITS OVERLAP_SINGLE_ITEM_PARAM_V50

5.2.9 NET_SDK_DOWNLOAD_TYPE

Enumerate file types to be downloaded.

```
typedef enum {
NET SDK DOWNLOAD CERT
                                      = 0,
 NET SDK DOWNLOAD IPC CFG FILE
                                         = 1,
 NET_SDK_DOWNLOAD_BASELINE_SCENE_PIC
                                             = 2.
 NET_SDK_DOWNLOAD_VQD_ALARM_PIC
                                            = 3,
 NET_SDK_DOWNLOAD_CONFIGURATION_FILE
                                             = 4,
 NET_SDK_DOWNLOAD_SCENE_CONFIGURATION_FILE
                                                 = 5,
 NET_SDK_DOWNLOAD_FILE_FORM_DB
 NET_SDK_DOWNLOAD_TME_FILE
                                        = 7.
 NET_SDK_DOWNLOAD_VEHICLE_BLOCKALLOWLIST_FILE
                                                  = 8,
 NET SDK DOWNLOAD GUID FILE
 NET_SDK_DOWNLOAD_FILE_FORM_CLOUD
                                             = 10.
 NET SDK DOWNLOAD PICTURE
                                       = 11,
 NET SDK DOWNLOAD VIDEO
                                       = 12,
 NET_DVR_DOWNLOAD_SCREEN_FILE
                                         = 13.
 NET_SDK_DOWNLOAD_PUBLISH_MATERIAL
                                            = 14.
 NET_SDK_DOWNLOAD_THERMOMETRIC_FILE
                                              = 15,
 NET SDK DOWNLOAD LED CHECK FILE
                                           = 16,
 NET_SDK_DOWNLOAD_VEHICLE_INFORMATION
                                              = 17,
 NET_SDK_DOWNLOAD_CERTIFICATE_BLOCKLIST_TEMPLET
 NET_SDK_DOWNLOAD_LOG_FILE
                                        = 19,
 NET_SDK_DOWNLOAD_FILEVOLUME_DATA
                                            = 20,
                                        = 21,
 NET_SDK_DOWNLOAD_FD_DATA
 NET SDK DOWNLOAD SECURITY CFG FILE
                                            = 22,
 NET SDK DOWNLOAD PUBLISH SCHEDULE
                                                 = 24,
 NET SDK DOWNLOAD RIGHT CONTROLLER AUDIO
 NET_SDK_DOWNLOAD_MODBUS_CFG_FILE
                                             = 25,
 NET_SDK_DOWNLOAD_RS485_PROTOCOL_DLL_FILE
                                                = 26,
 NET SDK DOWNLOAD CLUSTER MAINTENANCE LOG
                                                  = 27,
 NET_SDK_DOWNLOAD_SQL_ARCHIVE_FILE
                                            = 28.
 NET_SDK_DOWNLOAD_SUBWIND_STREAM
                                             = 29.
 NET_SDK_DOWNLOAD_DEVTYPE_CALIBFILE
 NET_SDK_DOWNLOAD_HD_CAMERA_CORRECT_TABLE
                                                  = 31,
 NET_SDK_DOWNLOAD_CLIENT_CALIBFILE
                                           = 32,
 NET_SDK_DOWNLOAD_FOUE_CAMERAS_PICTURES
                                                = 33,
 NET SDK DOWNLOAD DOOR CONTENT
 NET_SDK_DOWNLOAD_PUBLISH_MATERIAL_THUMBNAIL
                                                   = 35.
 NET_SDK_DOWNLOAD_PUBLISH_PROGRAM_THUMBNAIL
                                                    = 36.
 NET_SDK_DOWNLOAD_PUBLISH_TEMPLATE_THUMBNAIL
 NET SDK DOWNLOAD DARK FIGHTER X CORRECT TABLE MAIN = 38,
 NET_SDK_DOWNLOAD_DARK_FIGHTER_X_CORRECT_TABLE_BACKUP = 39,
 NET_SDK_DOWNLOAD_OFFLINE_CAPTURE_INFO_TEMPLATE
                                                    = 40,
 NET_SDK_DOWNLOAD_CAPTURE_DATA
 NET_SDK_DOWNLOAD_HD_CAMERA_CORRECT_TABLE_FILE
                                                    = 42,
 NET_SDK_DOWNLOAD_CLIENT_CALIBFILE_FILE
```

```
NET_SDK_DOWNLOAD_FOUR_CAMERAS_PICTURES_FILE = 44,

NET_SDK_DOWNLOAD_SCENE_FILE = 45,

NET_SDK_DOWNLOAD_OPEN_SOURCE_CERT = 46,

NET_SDK_DOWNLOAD_RATIOSTITCHING_FILE = 47,

NET_SDK_DOWNLOAD_LENS_PARAM_FILE = 48,

NET_SDK_DOWNLOAD_SELECT_DEVTYPE_CALIBFILE = 49

} NET_SDK_DOWNLOAD_TYPE;
```

Enumeration Type

NET SDK DOWNLOAD CERT

Certificate.

NET_SDK_DOWNLOAD_IPC_CFG_FILE

Network camera configuration file.

NET SDK DOWNLOAD BASELINE SCENE PIC

Base scene picture.

NET SDK DOWNLOAD VQD ALARM PIC

VQD (video quality diagnosis) alarm picture.

NET SDK DOWNLOAD CONFIGURATION FILE

Configuration file.

NET SDK DOWNLOAD SCENE CONFIGURATION FILE

Scene configuration file.

NET SDK DOWNLOAD FILE FORM DB

File in the image and video library.

NET_SDK_DOWNLOAD_TME_FILE

Entrance and exit management file.

NET SDK DOWNLOAD VEHICLE BLOCKALLOWLIST FILE

Blocklist and allowlist configuration file.

NET SDK DOWNLOAD GUID FILE

GUID file.

NET SDK DOWNLOAD FILE FORM CLOUD

Picture in the cloud storage.

NET_SDK_DOWNLOAD_PICTURE

Picture.

NET_SDK_DOWNLOAD_VIDEO

Video.

NET_DVR_DOWNLOAD_SCREEN_FILE

Screen server file.

NET_SDK_DOWNLOAD_PUBLISH_MATERIAL

Local material file of information release.

NET_SDK_DOWNLOAD_THERMOMETRIC_FILE

Thermometry calibration file.

NET SDK DOWNLOAD LED CHECK FILE

LED correction file.

NET_SDK_DOWNLOAD_VEHICLE_INFORMATION

Vehicle information to be exported.

NET_SDK_DOWNLOAD_CERTIFICATE_BLOCKLIST_TEMPLET

ID card blocklist template.

NET_SDK_DOWNLOAD_LOG_FILE

Log to be exported.

NET SDK DOWNLOAD FILEVOLUME DATA

File volume data file, currently it is only supported by CVR (central video recorder) devices.

NET_SDK_DOWNLOAD_FD_DATA

Data in a specific face picture library to be exported.

NET_SDK_DOWNLOAD_SECURITY_CFG_FILE

Configuration file to be securely exported.

NET_SDK_DOWNLOAD_PUBLISH_SCHEDULE

Schedule to be exported.

NET_SDK_DOWNLOAD_RIGHT_CONTROLLER_AUDIO

Audio file of the main controller.

NET_SDK_DOWNLOAD_MODBUS_CFG_FILE

Configuration file of Modbus protocol.

NET SDK DOWNLOAD RS485 PROTOCOL DLL FILE

Dynamic library file of RS-485 protocol.

NET_SDK_DOWNLOAD_CLUSTER_MAINTENANCE_LOG

Cluster maintenance log to be exported.

NET_SDK_DOWNLOAD_SQL_ARCHIVE_FILE

Archived record in the database to be exported.

NET_SDK_DOWNLOAD_SUBWIND_STREAM

Sub-window stream to be exported.

NET_SDK_DOWNLOAD_DEVTYPE_CALIBFILE

Model calibration file to be exported (*.cal).

NET SDK DOWNLOAD HD CAMERA CORRECT TABLE

24 MP/32 MP correction list to be exported (*.cal).

NET_SDK_DOWNLOAD_CLIENT_CALIBFILE

Client calibration file to be exported (*.pto).

NET_SDK_DOWNLOAD_FOUE_CAMERAS_PICTURES

Four-channel picture package to be exported (.tar).

NET SDK DOWNLOAD DOOR CONTENT

Door contact information.

NET_SDK_DOWNLOAD_PUBLISH_MATERIAL_THUMBNAIL

Thumbnail of local information release material.

NET_SDK_DOWNLOAD_PUBLISH_PROGRAM_THUMBNAIL

Thumbnail of information release program.

NET SDK DOWNLOAD PUBLISH TEMPLATE THUMBNAIL

Thumbnail of information release template.

NET_SDK_DOWNLOAD_DARK_FIGHTER_X_CORRECT_TABLE_MAIN

DarkfighterX correction list file (main partition).

NET_SDK_DOWNLOAD_DARK_FIGHTER_X_CORRECT_TABLE_BACKUP

DarkfighterX correction list file (backup partition).

NET_SDK_DOWNLOAD_OFFLINE_CAPTURE_INFO_TEMPLATE

User list template of collection.

NET_SDK_DOWNLOAD_CAPTURE_DATA

Offline collected data.

NET_SDK_DOWNLOAD_HD_CAMERA_CORRECT_TABLE_FILE

HD camera correction sheet (CAL format).

NET SDK DOWNLOAD CLIENT CALIBFILE FILE

User calibration file (PTO format).

NET_SDK_DOWNLOAD_FOUR_CAMERAS_PICTURES_FILE

Channel pictures package (TAR format).

NET_SDK_DOWNLOAD_SCENE_FILE

Scene file.

NET_SDK_DOWNLOAD_OPEN_SOURCE_CERT

Open source license compliance.

NET_SDK_DOWNLOAD_RATIOSTITCHING_FILE

Ratio stitching file.

NET_SDK_DOWNLOAD_LENS_PARAM_FILE

Lens parameters file.

NET_SDK_DOWNLOAD_SELECT_DEVTYPE_CALIBFILE

Calibration file in CAL format.

5.2.10 NET_SDK_UPLOAD_TYPE

Enumeration about File Types to Be Uploaded

Enumeration Type	Macro Definition Value	Description
UPGRADE_CERT_FILE	0	Certificate file to be upgraded.
UPLOAD_CERT_FILE	1	Certificate file to be uploaded.
TRIAL_CERT_FILE	2	Trial license file.
CONFIGURATION_FILE	3	Configuration file.
UPLOAD_RECORD_FILE	4	Video file.
SCENE_CONFIGURATION_FILE	5	Scene configuration file.
UPLOAD_PICTURE_FILE	6	Picture file.
UPLOAD_VIOLATION_FILE	7	Violation dictionary file.
UPLOAD_TG_FIL	8	Timing generator file.
UPLOAD_DATA_TO_DB	9	File to be uploaded to picture and video library.
UPLOAD_BACKGROUND_PIC	10	Background picture.
UPLOAD_CALIBRATION_FILE	11	Calibration file.
UPLOAD_TME_FILE	12	Entrance and exiting management file.
UPLOAD_VEHICLE_BLOCKALLOWLST_ FILE	13	Vehicle blocklist file.
UPLOAD_PICTURE_TO_CLOUD	15	Picture file to be uploaded to cloud storage.
UPLOAD_VIDEO_FILE	16	Video file.
UPLOAD_SCREEN_FILE	17	Screen server file.

Enumeration Type	Macro Definition Value	Description
UPLOAD_PUBLISH_MATERIAL	18	Local material file of information release system.
UPLOAD_PUBLISH_UPGRADE_FILE	19	Upgrade file of information release system.
UPLOAD_RING_FILE	20	Ringtone file.
UPLOAD_ENCRYPT_CERT	21	Encryption certificate.
UPLOAD_THERMOMETRIC_FILE	22	Calibration file for temperature measurement.
UPLOAD_SUBBRAND_FILE	23	Vehicle sub brand file.
UPLOAD_LED_CHECK_FILE	24	LED correction file.
BATCH_UPLOAD_PICTURE_FILE	25	Picture files for uploading in batch.
UPLOAD_EDID_CFG_FILE	26	EDID configuration file.
UPLOAD_PANORAMIC_STITCH	27	Panorama stitching configuration file.
UPLOAD_BINOCULAR_COUNTING	28	Binocular counting correction sheet.
UPLOAD_AUDIO_FILE	29	Audio file.
UPLOAD_PUBLISH_THIRD_PARTY_ FILE	30	Third-party file.
UPLOAD_DEEPEYES_BINOCULAR	31	TX1 binocular correction sheet.
UPLOAD_CERTIFICATE_BLOCKLIST	32	ID card blocklist.
UPLOAD_HD_CAMERA_CORRECT_ TABLE	33	HD camera correction sheet (CAL format).
UPLOAD_FD_DATA	35	Face data file to be imported to face picture library.
UPLOAD_FACE_DATA	36	Face picture file to be imported to face picture library.
UPLOAD_FACE_ANALYSIS_DATA	37	Picture file to be imported to picture recognition target.
UPLOAD_FILEVOLUME_DATA	38	File volume file
IMPORT_DATA_TO_FACELIB	39	Face data (face picture and picture additional information) to be

Enumeration Type	Macro Definition Value	Description
		imported to face picture library of device.
UPLOAD_LEFTEYE_4K_CALIBFILE	40	Camera calibration parameter file.
UPLOAD_SECURITY_CFG_FILE	41	Configuration file to be securely imported.
UPLOAD_RIGHT_CONTROLLER_ AUDIO	42	Audio file of main controller.
UPLOAD_MODBUS_CFG_FILE	43	Configuration file of Modbus protocol.
UPLOAD_NOTICE_VIDEO_DATA	44	Bulletin video file.
UPLOAD_RS485_PROTOCOL_DLL_ FILE	45	Dynamic library file of RS485 protocol.
UPLOAD_PIC_BY_BUF	46	Picture file for importing by picture cache.
UPLOAD_CLIENT_CALIBFILE	47	User calibration file (PTO format).
UPLOAD_HD_CAMERA_CORRECT_ TABLE_3200W	48	HD camera correction sheet (CAL format).
UPLOAD_DOOR_CONTENT	49	Contact information of the door at the building unit.
UPLOAD_ASR_CONTROL_FILE	50	Speech recognition control file.
UPLOAD_APP_FILE	51	Application program file.
UPLOAD_AI_ALGORITHM_MODEL	52	Algorithm model in binary format.
UPLOAD_AI_BASE_PICTURE	55	Reference pictures in binary format for AI target comparison.
UPLOAD_OFFLINE_CAPTURE_INFO	56	User list of offline collection to be imported.
IMPORT_DATA_TO_HBDLIB	60	Import human body picture with linked information to library.
UPLOAD_SCENE_FILE	61	Scene file to be imported.
UPLOAD_RATIOSTITCHING_FILE	62	Ratio stitching file to be imported.
UPLOAD_LENS_PARAM_FILE	63	Lens parameters file to be imported.

5.2.11 TRAFFIC_AID_TYPE

Enumerate the traffic incident types.

Enumeration Definition

Members

CONGESTION

Congestion detection.

PARKING

Parking detection.

INVERSE

Wrong-way driving detection.

PEDESTRIAN

Pedestrian detection.

DEBRIS

Unattended baggage or objects dropped down detection.

SMOKE

Smoke detection.

OVERLINE

Driving on the lane line detection.

VEHICLE_CONTROL_LIST

Vehicle blocklist detection.

SPEED

Overspeed detection.

LANECHANGE

Illegal lane change detection.

TURNAROUND

U-turning detection.

VEHICLE_OCCUPANCY_NONVEHICLE

Motor vehicle on non-vehicle lane detection.

GASSER

Queue jumping detection.

ROADBLOCK

Roadblock detection.

CONSTRUCTION

Construction detection.

TRAFFIC_ACCIDENT

Traffic accident detection.

PARALLEL_PARKING

Parallel parking detection.

FOG_DETECTION

Fog detection.

5.2.12 TRAFFIC_AID_TYPE_EX

Enumerate the extended traffic incident types.

```
enum tagTRAFFIC_AID_TYPE_EX{
ENUM AID TYPE CONGESTION
                                   = 1,
ENUM AID TYPE PARKING
                                = 2,
ENUM_AID_TYPE_INVERSE
                                = 3,
ENUM_AID_TYPE_PEDESTRIAN
                                 = 4,
ENUM AID TYPE DEBRIS
                                = 5,
ENUM AID TYPE SMOKE
ENUM_AID_TYPE_OVERLINE
ENUM_AID_TYPE_VEHICLE_CONTROL_LIST
                                       = 8,
ENUM AID TYPE SPEED
ENUM_AID_TYPE_LANECHANGE
                                   = 10,
```

```
ENUM AID TYPE TURNAROUND
                                   = 11.
ENUM_AID_TYPE_VEHICLE_OCCUPANCY_NONVEHICLE = 12,
ENUM AID TYPE GASSER
ENUM AID TYPE ROADBLOCK
                                = 14.
ENUM_AID_TYPE_CONSTRUCTION
                                  = 15,
ENUM_AID_TYPE_TRAFFIC_ACCIDENT
                                    = 16,
ENUM AID TYPE PARALLEL PARKING
                                    = 17,
ENUM_AID_TYPE_FOG_DETECTION
                                   = 18.
ENUM_AID_TYPE_OCCUPY_EMERGENCY_LANE
                                         = 19,
ENUM_AID_TYPE_CONFLAGRATION
                                   = 20,
ENUM_AID_TYPE_TFS_MANUAL_TRIGGER
                                   = 21,
ENUM AID TYPE LOADING DOCK TRIGGER UPLOAD = 22,
ENUM AID TYPE OCCUPY OVERTAKING LANE = 23,
ENUM AID TYPE PROHIBITION MARK VIOLATION = 24,
ENUM AID TYPE CHECK POINT
ENUM_AID_TYPE_SUDDEN_SPEED_DROP
                                      = 26.
ENUM_AID_TYPE_SLOW_MOVING
                                   = 27,
ENUM AID TYPE NOT KEEP DISTANCE
ENUM_AID_TYPE_NOT_SLOW_ZEBRA_CROSSING
ENUM_AID_TYPE_OVER_TAKE_RIGHT_SIDE = 30,
ENUM_AID_TYPE_LOW_SPEED
ENUM_AID_TYPE_DRAG_RACING
                                  = 32,
ENUM_AID_TYPE_CHANGE_LANE_CONTINUOUSLY
ENUM AID TYPE S SHARP DRIVING
                                  = 34.
ENUM AID TYPE LARGE VEHICLE OCCUPY LINE = 35,
}TRAFFIC AID TYPE EX;
```

Members

ENUM AID TYPE CONGESTION

Congestion detection.

ENUM_AID_TYPE_PARKING

Parking detection.

ENUM AID TYPE INVERSE

Wrong-way driving detection.

ENUM AID TYPE PEDESTRIAN

Pedestrian detection.

ENUM AID TYPE DEBRIS

Unattended baggage or objects dropped down detection.

ENUM_AID_TYPE_SMOKE

Smoke detection.

ENUM_AID_TYPE_OVERLINE

Driving on the lane line detection.

ENUM_AID_TYPE_VEHICLE_CONTROL_LIST

Vehicle blocklist detection.

ENUM_AID_TYPE_SPEED

Overspeed detection.

ENUM_AID_TYPE_LANECHANGE

Illegal lane change detection.

ENUM_AID_TYPE_TURNAROUND

U-turning detection.

ENUM_AID_TYPE_VEHICLE_OCCUPANCY_NONVEHICLE

Motor vehicle on non-vehicle lane detection.

ENUM_AID_TYPE_GASSER

Queue jumping detection.

ENUM_AID_TYPE_ROADBLOCK

Roadblock detection.

ENUM_AID_TYPE_CONSTRUCTION

Construction detection.

ENUM_AID_TYPE_TRAFFIC_ACCIDENT

Traffic accident detection.

ENUM AID TYPE PARALLEL PARKING

Parallel parking detection.

ENUM_AID_TYPE_FOG_DETECTION

Fog detection.

ENUM_AID_TYPE_OCCUPY_EMERGENCY_LANE

Emergency lane occupation detection.

ENUM_AID_TYPE_CONFLAGRATION

Fire.

ENUM_AID_TYPE_TFS_MANUAL_TRIGGER

Manual enforcement event.

ENUM_AID_TYPE_LOADING_DOCK_TRIGGER_UPLOAD

Loading dock triggered information uploading.

ENUM_AID_TYPE_OCCUPY_OVERTAKING_LANE

Overtaking lane occupation detection.

ENUM_AID_TYPE_PROHIBITION_MARK_VIOLATION

Prohibition mark violation.

ENUM_AID_TYPE_CHECK_POINT

Checkpoint.

ENUM_AID_TYPE_SUDDEN_SPEED_DROP

Sudden speed drop detection.

ENUM_AID_TYPE_SLOW_MOVING

Vehicle slow moving detection.

ENUM_AID_TYPE_NOT_KEEP_DISTANCE

Not keeping vehicle distance detection.

ENUM_AID_TYPE_NOT_SLOW_ZEBRA_CROSSING

Not slowing down at zebra crossing detection.

ENUM_AID_TYPE_OVER_TAKE_RIGHT_SIDE

Overtaking on the right detection.

ENUM_AID_TYPE_LOW_SPEED

Driving in low speed detection.

ENUM_AID_TYPE_DRAG_RACING

Street racing detection.

ENUM_AID_TYPE_CHANGE_LANE_CONTINUOUSLY

Continuous lane change detection.

ENUM_AID_TYPE_S_SHARP_DRIVING

Slalom driving detection.

ENUM_AID_TYPE_LARGE_VEHICLE_OCCUPY_LINE

Lane occupation by large-sized vehicle detection.

5.2.13 VCA PLATE COLOR

Enumerate the license plate colors.

```
enum{
VCA_BLUE_PLATE =0,
VCA_YELLOW_PLATE =1,
VCA_WHITE_PLATE =2,
VCA_BLACK_PLATE =3,
VCA_GREEN_PLATE =4,
VCA_BKAIR_PLATE =5,
VCA_RED_PLATE,
VCA_ORANGE_PLATE,
VCA_OTHER =0xff
}VCA_PLATE_COLOR
```

Member

VCA_BLUE_PLATE

Blue

VCA_YELLOW_PLATE

Yellow

VCA_WHITE_PLATE

White

VCA_BLACK_PLATE

Black

VCA_GREEN_PLATE

Green

VCA_BKAIR_PLATE

Black (for special use)

VCA_RED_PLATE

Red

VCA_ORANGE_PLATE

Orange

VCA_OTHER

Other

5.2.14 VCA_PLATE_TYPE

Enumerate the license plate types.

```
enum{
VCA_STANDARD92_PLATE =0,
VCA_STANDARD02_PLATE =1,
VCA_WJPOLICE_PLATE =2,
VCA_JINGCHE_PLATE =3,
STANDARD92_BACK_PLATE =4,
VCA_SHIGUAN_PLATE =5,
VCA_NONGYONG_PLATE =6,
VCA_MOTO_PLATE =7,
NEW_ENERGY_PLATE =8,
VCA_CONSULATE_PLATE =9,
VCA_EMERGENCY_PLATE = 10
TRANSPORT_PLATE = 0x20,
COMMERCIAL_PLATE,
```

```
PRIVATE PLATE,
LEARNING PLATE,
CD PLATE,
CC PLATE,
SPECIAL_PLATE,
PROTOCOL_PLATE,
GOVERNMENT PLATE,
EXPORT_PLATE,
TAXI_PLATE,
TESTING_PLATE,
TRANSFER_PLATE,
TRUCK_PLATE,
BUS PLATE,
PUBLIC PLATE,
PUB TRANS PLATE,
PRI_TRANS_PLATE,
UNKNOWN_PLATE
                     = 0xff
}VCA_PLATE_TYPE
```

Member

VCA_STANDARD92_PLATE

License plate of civil and military vehicle.

VCA STANDARDO2 PLATE

License plate of civil vehicle

VCA WJPOLICE PLATE

License plate of armed police vehicle.

VCA_JINGCHE_PLATE

License plate of police vehicle.

STANDARD92_BACK_PLATE

Tail board of civil vehicle.

VCA_SHIGUAN_PLATE

License plate of embassy vehicle.

VCA_NONGYONG_PLATE

License plate of farm vehicle.

VCA_MOTO_PLATE

License plate of motor vehicle.

NEW_ENERGY_PLATE

License plate of new energy vehicle.

VCA_CONSULATE_PLATE

License plate of consulate.

VCA_EMERGENCY_PLATE

License plate of emergent vehicle.

TRANSPORT_PLATE

License plate of carrier vehicle.

COMMERCIAL_PLATE

License plate of commercial vehicle.

PRIVATE_PLATE

License plate of private car.

LEARNING_PLATE

License plate of driver-training vehicle.

CD_PLATE

License plate of embassy vehicle.

CC_PLATE

License plate of embassy vehicle.

SPECIAL_PLATE

License plate of special vehicle.

PROTOCOL_PLATE

Protocol license plate.

GOVERNMENT_PLATE

License plate of government vehicle.

EXPORT_PLATE

Export license plate.

TAXI_PLATE,

Taxi license plate.

TESTING_PLATE

Test license plate.

TRANSFER_PLATE

Transfer license plate.

TRUCK_PLATE

Truck license plate.

BUS_PLATE

Bus license plate.

PUBLIC_PLATE

Public license plate.

PUB_TRANS_PLATE

Public transfer license plate.

PRI TRANS PLATE

Private transfer license plate.

UNKNOWN PLATE

Unknown (unrecognized).

5.2.15 VLR_VEHICLE_CLASS

Enumerate the vehicle parent brands.

```
typedef enum _VLR_VEHICLE_CLASS{
VLR_OTHER = 0, //Other
VLR_VOLKSWAGEN = 1, //Volkswagen
VLR_BUICK = 2, //Buick
VLR_BMW = 3, //BMW
VLR_HONDA = 4, //Hond
VLR_HONDA = 4, //Honda
VLR_PEUGEOT = 5, //Peugeot
VLR_TOYOTA = 6, //Toyota
VLR_FORD = 7, //Ford
VLR NISSAN = 8, //Nissan
VLR_AUDI = 9, //Audi
VLR_MAZDA = 10, //Mazda
VLR_CHEVROLET = 11, //Chevrolet
VLR_CITROEN = 12, //Citroen
VLR_HYUNDAI = 13, //Hyundai
VLR_CHERY = 14, //Chery
VLR KIA
           = 15, //Kia
VLR_ROEWE = 16, //Roewe
VLR_MITSUBISHI = 17, //Mitsubishi
VLR_SKODA = 18, //Skoda
VLR_GEELY = 19, //Geely
VLR ZHONGHUA = 20, //Zhonghua
VLR VOLVO = 21, //Volvo
VLR LEXUS
               = 22, //Lexus
VLR_FIAT = 23, //Fiat
VLR_EMGRAND = 24, //Emgrand (Geely)
VLR DONGFENG = 25, //Dongfeng
VLR_BYD = 26, //BYD
VLR_SUZUKI = 27, //Suzuki
VLR_JINBEI = 28, //Jinbei
VLR_HAIMA = 29, //Haima
VLR_SGMW = 30, //SGMW
VLR JAC
               = 31, //JAC
VLR_SUBARU = 32, //Subaru
VLR_ENGLON = 33, //Englon (Geely)
VLR_GREATWALL = 34, //Great Wall
```

```
VLR HAFEI
               = 35, //Hafei
VLR ISUZU
               = 36, //Isuzu
VLR SOUEAST
                = 37, //Soueast
                = 38, //Changan
VLR CHANA
               = 39, //Foton
VLR_FOTON
              = 40, //Xiali (FAW)
VLR XIALI
VLR BENZ
              = 41, //Benz
VLR FAW
              = 42, //FAW
VLR_NAVECO
                = 43, //Iveco
              = 44, //Lifan
VLR LIFAN
VLR BESTURN
              = 45, //FAW Besturn (FAW)
VLR CROWN
                = 46, //Crown (Toyota)
                = 47, //Renault
VLR RENAULT
              = 48, //JMC
VLR JMC
VLR MG
              = 49, //MG
              = 50, //Kama
VLR_KAMA
VLR ZOTYE
               = 51, //Zotye
VLR CHANGHE = 52, //Changhe
VLR_XMKINGLONG = 53, //Xiamen King Long (Golden Dragon)
VLR_HUIZHONG = 54, //Shanghai Huizhong
VLR_SZKINGLONG = 55, //Suzhou Jinlong
VLR HIGER
              = 56, //Higer
VLR_YUTONG
               = 57, //Yutong
VLR CNHTC
               = 58, //CNHTC
               = 59, //Beiben Truck
VLR BEIBEN
               = 60, //Hualing Xingma
VLR XINGMA
VLR_YUEJIN
               = 61, //Yuejin
VLR HUANGHAI
                 = 62, //Huanghai
VLR OLDWALL
                 = 63, //Great Wall (Old Version)
VLR_CHANACOMMERCIAL = 64, //Chang'an Business
                = 65, //Porsche
VLR_PORSCHE
                = 66, //Cadillac
VLR_CADILLAC
VLR INFINITI
               = 67, //Infiniti
VLR_GLEAGLE
                = 68, //Gleagle (Geely)
VLR_JEEP
            = 69, //Jeep
VLR_LANDROVER
                  = 70, //Land Rover
VLR CHANGFENG
                  = 71, //Changfeng
VLR BENNI
              = 72, //Chang'an Benni
              = 73, //Foton Forland
VLR ERA
                = 74, //Chana Tauri Star (Chang'an Business)
VLR TAURUS
VLR EADO
               = 75, //Chang'an Yidong
VLR_SHANQI
                = 76, //Shanqi
                 = 77, //Hongyan Auto (SAIC IVECO HONGYAN)
VLR_HONGYAN
VLR DRAGON
                 = 78, //Balong Motor (Dongfeng Liuqi)
VLR_JACTEXT
                = 79, //Jianghuai JAC
VLR_JACBUS
               = 80, //Jianghuai Xiandai Bus
VLR_ANKAI
               = 81, //Ankai Bus
VLR SHENLONG
                 = 82, //Shenlong Bus
VLR_DAEWOO
                 = 83, //Daewoo Bus
                  = 84, //Wuzheng Motor
VLR WUZHENG
VLR MAN
               = 85, //MAN Motor
VLR_ZHONGTONG = 86, //Zhongtong Bus
```

```
VLR BAOJUN
                = 87, //Baojun
                   = 88, //BAIC Weiwang
VLR BQWEIWANG
VLR TRUMPCHE
                  = 89, //Trumpchi
               = 90, //Landwind
VLR LUFENG
VLR_HMZHENGZHOU = 91, //Zhengzhou Hippocampus
            = 92, //BAIC Motor
VLR BEIJING
VLR ZHONGSHUN = 93, //Zhongshun
               = 94, //Weiling Motor
VLR WEILIN
              = 95, //Opel
VLR_OPEL
               = 96, //Karry
VLR_KARRY
VLR SMA
               = 97, //Huapu Motor
VLR SMATEXT
                = 98, //Huapu Motor Wenzi SMA
VLR YUWIN
               = 99, //JMC Yusheng
              = 100, //BMW MINI
VLR MINI
VLR MARK
               = 101, //Toyota MARKX
VLR HAVAL
               = 102, //HAVAL
VLR OGA
              = 103, //Acura
VLR VENUCIA = 104, //Venucia
VLR BYD2
              = 105, //BYD Style 2
VLR_SMART
               = 106, //Benz SMART
VLR_BAW
               = 107, //Beijing Vehicle Manufacture/BAW
VLR LUXGEN
               = 108, //Luxgen
VLR_YEMA
               = 109, //Yema
              = 110, //ZXAUT
VLR ZTE
VLR EVERUS
              = 111, //Linian
                = 112, //Chrysler
VLR CHRYSLER
VLR_GONOW
                 = 113, //Ji'ao
                = 114, //Songhua River
VLR SHJIANG
               = 115, //Chrey
VLR RUILIN
VLR FORTA
               = 116, //Fuda
VLR_GAGUAR
               = 117, //Jaguar
               = 118, //Heibao
VLR_HEIBAO
VLR TKING
               = 119, //TKING
VLR_TKINGTEXT = 120, //Tangjun Wenzi
VLR_FODAY
               = 121, //Foday
VLR_LOTUS
               = 122, //Lianhua Motor
VLR NANJUN
                = 123. //CNJ
VLR SHUANGHUAN
                    = 124, //Shuanghuan Motor
             = 125, //HAFEI Saibao
VLR SAIBAO
VLR HAWTAI
               = 126, //Hawtai
              = 127, //Yongyuan Feidie
VLR LIFO
VLR_JONWAY
                = 128, //Yongyuan Motor
VLR_FULONGMA
                  = 129, //Fulongma
VLR WEILI
           = 130, //Huaili
VLR_ANCHI
              = 131, //Jianghuai Anchi
             = 132, //Splash
VLR_PAIXI
VLR_HIGERTEXT = 133, //HIGER Wenzi
VLR_RIYECAR = 134, //Hino Light Truck
VLR_RIYETRUCK = 135, //Hino Heavy Truck
VLR JIANGNAN
                 = 136, //Jiangnan
VLR OLDZOTYE
                 = 137, //Zhongtai (Old Version)
VLR OLDXIALI
                = 138, //Xiali (Old Version)
```

```
VLR NEWAOCHI
                  = 139, //New Aochi
VLR CDW
               = 140, //Zhongqi Wangpai
                 = 141, //Zhongqi Wangpai Wenzi
VLR CDWTEXT
VLR_CIIMO
               = 142, //Honda CIIMO
VLR_CHANADS
                = 143, //Chang'an Di Ai Shi
VLR_DS
             = 144, //Dodge
VLR ROHENS
               = 145, //Hyundai Rohens Coupe
VLR YANTAI
               = 146, //Yantai
VLR_SHUANGLONG
                  = 147, //Shuanglong
                 = 148, //Shidai Fengling
VLR_FENGLING
VLR XINKAI
               = 149, //Xinkai
VLR GMC
               = 150, //GMC
VLR DATONG
                 = 151, //MAXUS
VLR BQYINXIANG
                  = 152, //BAIC Yinxiang
VLR NEWCHERY
                  = 153, //New Chery
VLR_MUDAN
                 = 154, //Mudan
VLR DAYUN
                = 155, //Dayun Motor
VLR DONGWO
                  = 156, //Dongwo Motor
VLR UNION
                = 157, //Union Motor
VLR_CHUNZHOU
                  = 158, //Chunzhou Bus
VLR_SANY
              = 159, //Sany
VLR YAXING
                = 160, //Asiastar Bus
VLR_HENGTONG
                  = 161, //Hengtong Bus
VLR SHAOLIN
                = 162, //Shaolin Bus
                = 163, //Young Man Bus
VLR YOUNG
VLR STOM
               = 164, //Shitong
VLR_SANHUAN
                  = 165, //Tri-Ring
VLR XUGONG
                 = 166, //XCMG
VLR BEIFANG
                = 167, //Beifang Motor
VLR JIANGHUAN
                  = 168, //Jianghuan Truck
                = 169, //Beijing Agricultural
VLR_BJFARM
VLR_NEWDADI
                 = 170, //Xin Dadi Motor
VLR SUNWIN
                 = 171, //Sunwin Bus
VLR_YINGTIAN
                 = 172, //Yingtian
VLR_QINGQI
                = 173, //Qingqi
                 = 174, //Chufeng Motor
VLR_CHUFENG
VLR SCANIA
                = 175, //Scania
VLR_JIULONG
                = 176, //Jiulong Bus
               = 177, //Youyi Bus
VLR YOUYI
VLR SHANGRAO
                  = 178, //Shangrao Bus
VLR JIJIANG
               = 179, //Jijiang
VLR_YANGZI
                = 180, //Yangzi Bus
VLR_XIWO
               = 181, //Seewo Bus
VLR CHANGJIANG
                   = 182, //Changjiang Bus
VLR_WUYI
               = 183, //Wuyi
VLR_CHENGDU
               = 184, //Chengdu Bus
VLR_TIANMA
                = 185, //Tianma
VLR BAOLONG
                = 186, //Baolong
VLR_NEWYATU
                 = 187, //Soyat
VLR BARUI
               = 188, //Kia Borrego
VLR GUANZHI
                 = 189, //Qoros
VLR_XIYATE
               = 190, //Seat
```

```
VLR BINLI
               = 191, //Bentley
VLR DADI
               = 192, //Dadi
               = 193, //Fuqi
VLR FUQI
VLR HANGTIAN
                  = 194, //Hangtian Motor
                  = 195, //Hi-tech
VLR_HENGTIAN
VLR JMCCAR
                 = 196, //JMC
VLR KAERSEN
                 = 197, //Carlson Motor
VLR KAWEI
                = 198, //Kawei Motor
                 = 199, //Lamborghini
VLR_LANBOJINI
VLR_MASHALADI = 200, //Maserati
VLR SHUCHI
                = 201, //Shuchi Bus
VLR_SHILI
               = 202, //Shili Bus
VLR HUABEI
                = 203, //Zhongke Huabei
                 = 204, //SAIC Yizheng
VLR YIZHENG
VLR CHUNLAN
                  = 205, //Chunlan
VLR_DAFA
               = 206, //Daihatsu Motor
VLR_SHENYE
               = 207, //Shenye Motor
VLR FALALI
               = 208, //Ferrari
VLR FUXING
               = 209, //Fuxing Motor
VLR_ANYUAN
                 = 210, //Anyuan-Bus
VLR_JINGHUA
                 = 211, //Jinghua Bus
VLR TAIHU
               = 212, //Taihu Bus
VLR_WUZHOULONG = 213, //Wuzhoulong
VLR CHANGLONG = 214, //Changlong-Bus
              = 215, //Yuexi Bus
VLR YUEXI
VLR SHENMA
                 = 216, //Shenma Bus
VLR_LUSHAN
                = 217, //Lushan
VLR_WANFENG
                  = 218, //Wanfeng
VLR GZYUNBAO
                  = 219, //Guangzhou Yunbao
                  = 220, //Zhongda Motor
VLR ZHONGDA
VLR_THREEWHEEL = 221, //Tricycle
VLR_TWOWHEEL = 222, //Two Wheeler
VLR JBC
              = 223, //JBC
VLR_YZJIANG
             = 224, //Yangtze Bus
VLR_CNJ
              = 225, //CNJ
VLR_FORLAND
                 = 226, //Futian Shidai Wenzi
VLR FARMCAR
                 = 227, //Agricultural Vehicle
VLR DONGFANGHONG = 228, //Dong Fang Hong
               = 229, //Steyr
VLR STEYR
VLR HONGQI
                = 230, //Hongqi
                = 231, //User 1
VLR USER1
VLR_USER2
                = 232, //User 2
VLR_USER3
                = 233, //User 3
VLR USER4
                = 234, //User 4
VLR_USER5
                = 235, //User 5
                = 236, //User 6
VLR_USER6
VLR_USER7
                = 237, //User 7
VLR USER8
                = 238 //User 8
}VLR_VEHICLE_CLASS;
```

5.2.16 VTR_RESULT

Enumerate the vehicle type recognition results.

Enumeration Definition

```
typedef enum _VTR_RESULT{
VTR_RESULT_OTHER
                      = 0,
VTR RESULT BUS
                     = 1,
VTR RESULT TRUCK
                     = 2.
VTR_RESULT_CAR
                     = 3,
VTR_RESULT_MINIBUS
                      = 4,
VTR_RESULT_SMALLTRUCK = 5,
VTR_RESULT_HUMAN
                    = 6,
VTR_RESULT_TUMBREL
                      = 7,
VTR_RESULT_TRIKE
VTR RESULT SUV MPV = 9,
VTR_RESULT_MEDIUM_BUS = 10,
VTR_RESULT_MOTOR_VEHICLE = 11,
VTR RESULT NON MOTOR VEHICLE = 12,
                      = 13,
VTR_RESULT_SMALLCAR
VTR_RESULT_MICROCAR
                        = 14,
VTR_RESULT_PICKUP
                   = 15,
VTR RESULT CONTAINER TRUCK = 16,
VTR_RESULT_MINI_TRUCK = 17,
VTR_RESULT_SLAG_CAR
                       = 18,
VTR_RESULT_CRANE
                      = 19,
VTR_RESULT_OIL_TANK_TRUCK = 20,
VTR_RESULT_CONCRETE_MIXER = 21,
VTR_RESULT_PLATFORM_TRAILER = 22,
VTR RESULT HATCHBACK = 23,
VTR RESULT SALOON
VTR_RESULT_SPORT_SEDAN = 25
}VTR_RESULT;
```

Members

```
VTR_RESULT_OTHER
Unknown.

VTR_RESULT_BUS
Bus.

VTR_RESULT_TRUCK
Truck.

VTR_RESULT_CAR
Car.

VTR_RESULT_MINIBUS
```

Minivan.

VTR_RESULT_SMALLTRUCK

Light truck.

VTR_RESULT_HUMAN

Pedestrian.

VTR_RESULT_TUMBREL

Two wheeler.

VTR_RESULT_TRIKE

Tricycle.

VTR_RESULT_SUV_MPV

SUV/MPV.

VTR_RESULT_MEDIUM_BUS

Middle-sized bus.

VTR_RESULT_MOTOR_VEHICLE

Motor vehicle.

VTR_RESULT_NON_MOTOR_VEHICLE

Non-motor vehicle.

VTR_RESULT_SMALLCAR

Small sedan.

VTR_RESULT_MICROCAR

Mini sedan.

VTR_RESULT_PICKUP

Pick-up truck.

VTR_RESULT_CONTAINER_TRUCK

Container truck.

VTR_RESULT_MINI_TRUCK

Mini cargo truck.

VTR_RESULT_SLAG_CAR

Dump truck.

VTR_RESULT_CRANE

Construction vehicle.

VTR_RESULT_OIL_TANK_TRUCK

Oil tank truck.

VTR_RESULT_CONCRETE_MIXER

Concrete mixer.

VTR_RESULT_PLATFORM_TRAILER

Flatbed trailer.

VTR_RESULT_HATCHBACK

Hatchback.

VTR_RESULT_SALOON

Saloon.

VTR_RESULT_SPORT_SEDAN

Sports sedan.

Chapter 6 Request URL

The request URLs for implementing the functions in this manual are listed here for reference. You can search for the URLs and view their definitions.

6.1 /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID>

Get or set access parameters of specified cloud storage.

Request URI Definition

Table 6-1 GET /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID>

Method	GET
Description	Get the access parameters of specified cloud storage.
Query	None.
Request	None.
Response	Succeeded: XML_CloudStorage
	Failed: XML_ResponseStatus

Table 6-2 PUT /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID>

Method	PUT
Description	Set the access parameters of specified cloud storage.
Query	None.
Request	XML_CloudStorage
Response	XML_ResponseStatus

Remarks

The first <**ID**> in the URI refers to the channel ID, and the second <**ID**> in the URI refers to cloud storage server ID.

6.2 /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID>/capabilities

Get the cloud storage access capability.

Request URI Definition

Table 6-3 GET /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/<ID>/capabilities

Method	GET
Description	Get the cloud storage access capability.
Query	None.
Request	None.
Response	XML_Cap_CloudStorage

Remarks

The first <**ID**> in the URI refers to channel No., the default value is 1, and second <**ID**> refers to cloud storage server ID, which starts from 1.

6.3 /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/test

Test accessing cloud storage.

Request URI Definition

Table 6-4 POST /ISAPI/ContentMgmt/channels/<ID>/cloudStorage/test

Method	POST
Description	Test accessing cloud storage.
Query	security : the version No. of encryption scheme. When security does not exist, it indicates that the data is not encrypted; when security is 1, it indicates that the nodes of sensitive information in the message are encrypted in AES128 CBC mode; when security is 2, it indicates that the nodes of sensitive information in the message are encrypted in AES256 CBC mode.
	iv: the initialization vector, and it is required when security is 1 or 2.
Request	XML_CloudStorageTestDescription
Response	Succeeded: XML_CloudStorageTestResult Failed: XML_ResponseStatus

Remarks

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

6.4 /ISAPI/ITC/capability

Get intelligent traffic capability.

Request URI Definition

Table 6-5 GET /ISAPI/ITC/capability

Method	GET
Description	Get intelligent traffic capability
Query	None.
Request	None.
Response	Succeeded: XML_ITCCap
	Failed: XML_ResponseStatus

6.5 /ISAPI/Parking/packingSpaceRecognition/search?format=json

Search for parking space detection events.

Request URI Definition

Table 6-6 POST /ISAPI/Parking/packingSpaceRecognition/search?format=json

Method	POST
Description	Search for parking space detection events
Query	format: determine the format of request or response message.
Request	JSON_ParkingSpaceRecognitionSearchDescription
Response	Succeeded: JSON_ParkingSpaceRecognitionSearchResult
	Failed: JSON_ResponseStatus

6.6 /ISAPI/System/deviceInfo

Operations about the device information.

Request URI Definition

Table 6-7 GET /ISAPI/System/deviceInfo

Method	GET
Description	Get the device information.
Query	None
Request	None.
Response	Succeeded: XML_DeviceInfo
	Failed: XML_ResponseStatus

Table 6-8 PUT /ISAPI/System/deviceInfo

Method	PUT
Description	Set the device information.
Query	None
Request	XML_DeviceInfo
Response	XML_ResponseStatus

6.7 /ISAPI/System/deviceInfo/capabilities

Get the device information configuration capability.

Table 6-9 GET /ISAPI/System/deviceInfo/capabilities

Method	GET
Description	Get the device information configuration capability.
Query	None.
Request	None.
Response	Succeeded: XML_Cap_DeviceInfo
	Failed: XML_ResponseStatus

6.8 /ISAPI/Traffic/channels/<ID>/capabilities

Get traffic channel capability.

Request URI Definition

Table 6-10 GET /ISAPI/Traffic/channels/<ID>/capabilities

Method	GET
Description	Get traffic channel capability.
Query	None
Request	None
Response	Succeeded: XML_TrafficChannelCap
	Failed: XML_ResponseStatus

Remarks

The **ID** in the request URI refers to the traffic channel ID.

6.9 /ISAPI/Traffic/channels/<ID>/imageMerge

Get or set parameters of traffic picture composition.

Request URI Definition

Table 6-11 GET /ISAPI/Traffic/channels/<ID>/imageMerge

Method	GET
Description	Get parameters of traffic picture composition.
Query	None
Request	None
Response	Succeeded: XML_ImageMerge_Channels
	Failed: XML_ResponseStatus

Table 6-12 PUT /ISAPI/Traffic/channels/<ID>/imageMerge

Method	PUT
Description	Set parameters of traffic picture composition.

Query	None
Request	XML_ImageMerge_Channels
Response	XML_ResponseStatus

6.10 /ISAPI/Traffic/channels/<ID>/imageMerge/capabilities

Get configuration capability of traffic picture composition.

Request URI Definition

Table 6-13 GET /ISAPI/Traffic/channels/<ID>/imageMerge/capabilities

Method	GET
Description	Get the picture composition configuration capability.
Query	None.
Request	None.
Response	Succeeded: XML_Cap_ImageMerge
	Failed: XML_ResponseStatus

6.11 /ISAPI/Traffic/channels/<ID>/licensePlate/filtration?format=json

Get or set the parameters of filtering duplicated license plate.

Table 6-14 GET /ISAPI/Traffic/channels/<ID>/licensePlate/filtration?format=json

Method	GET
Description	Get the parameters of filtering duplicated license plate.
Query	format: determine the format of request or response message.
Request	None.
Response	Succeeded: <u>JSON_Filtration</u>
	Failed: <u>JSON_ResponseStatus</u>

Table 6-15 PUT /ISAPI/Traffic/channels/<ID>/licensePlate/filtration?format=json

Method	PUT
Description	Set the parameters of filtering duplicated license plate.
Query	format: determine the format of request or response message.
Request	JSON_Filtration
Response	JSON_ResponseStatus

Remarks

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

6.12 /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects

Get or set parameters of mixed traffic detection.

Request URI Definition

Table 6-16 GET /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects

Method	GET
Description	Get parameters of mixed traffic detection.
Query	None.
Request	None.
Response	Succeeded: XML_HVTVehicleDetectCfg
	Failed: XML ResponseStatus

Table 6-17 PUT /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects

Method	PUT
Description	Set parameters of mixed traffic detection.
Query	None.
Request	XML_HVTVehicleDetectCfg
Response	XML_ResponseStatus

Remarks

The **ID** in the request URI refers to the channel ID.

6.13 /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects/<SID>

Get or set parameters of mixed traffic detection (single scene).

Request URI Definition

Table 6-18 GET /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects/<SID>

Method	GET
Description	Get parameters of mixed traffic detection (single scene).
Query	None.
Request	None.
Response	Succeeded: <u>XML_HVTVehicleDetectScene</u> Failed: <u>XML_ResponseStatus</u>

Table 6-19 PUT /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects/<SID>

Method	PUT
Description	Set parameters of mixed traffic detection (single scene).
Query	None.
Request	XML_HVTVehicleDetectScene
Response	XML_ResponseStatus

Remarks

The **ID**> in the request URI refers to channel ID, and the **SID**> refers to scene ID.

6.14 /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects/capabilities

Get the capability of mixed traffic detection.

Table 6-20 GET /ISAPI/Traffic/channels/<ID>/HVTVehicleDetects/capabilities

Method	GET
Description	Get the capability of mixed traffic detection.
Query	None.

Request	None.
Response	Succeeded: XML_Cap_HVTVehicleDetectCfg
	Failed: XML_ResponseStatus

Remarks

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

6.15 /ISAPI/Traffic/channels/<ID>/searchLPListAudit

Search for license plate list by channel.

Request URI Definition

Table 6-21 POST /ISAPI/Traffic/channels/<ID>/searchLPListAudit

Method	POST
Description	Search for license plate list by channel.
Query	None
Request	XML_LPListAuditSearchDescription
Response	XML_LPListAuditSearchResult

Remarks

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

6.16 /ISAPI/Traffic/channels/<ID>/vehicleDetect

Get or set vehicle detection parameters.

Table 6-22 GET /ISAPI/Traffic/channels/<ID>/vehicleDetect

Method	GET
Description	Get vehicle detection parameters.
Query	None

Request	None
Response	Succeeded: XML_VehicleDetectCfg
	Failed: XML_ResponseStatus

Table 6-23 PUT /ISAPI/Traffic/channels/<ID>/vehicleDetect

Method	PUT
Description	Set vehicle detection parameters.
Query	None
Request	XML_VehicleDetectCfg
Response	XML_ResponseStatus

Remarks

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

6.17 /ISAPI/Traffic/channels/<ID>/vehicleDetect/capabilities

Get the vehicle detection configuration capability.

Request URI Definition

Table 6-24 GET /ISAPI/Traffic/channels/<ID>/vehicleDetect/capabilities

Method	GET
Description	Get the vehicle detection configuration capability.
Query	None
Request	None
Response	Succeeded: XML_Cap_VehicleDetectCfg
	Failed: XML_ResponseStatus

6.18 /ISAPI/Traffic/dockStation/basicInfo?format=json

Get or set basic parameters of dock station.

Request URI Definition

Table 6-25 GET /ISAPI/Traffic/dockStation/basicInfo?format=json

Method	GET
Description	Get basic parameters of dock station.
Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_BasicInfo</u>
	Failed: JSON_ResponseStatus

Table 6-26 PUT /ISAPI/Traffic/dockStation/basicInfo?format=json

Method	PUT
Description	Set basic parameters of dock station.
Query	format: determine the format of request or response message.
Request	JSON_BasicInfo
Response	JSON_ResponseStatus

6.19 /ISAPI/Traffic/dockStation/deviceManagement/<ID>?format=json

Set a body camera's information, or delete a body camera.

Table 6-27 PUT /ISAPI/Traffic/dockStation/deviceManagement/<ID>?format=json

Method	PUT
Description	Set a body camera's information.
Query	format: determine the format of request or response message.
Request	JSON_DeviceInfo
Response	JSON_ResponseStatus

Table 6-28 DELETE /ISAPI/Traffic/dockStation/deviceManagement/<ID>?format=json

Method	DELETE
Description	Delete a body camera.
Query	format: determine the format of request or response message.
Request	None
Response	JSON_ResponseStatus

Remarks

The <ID> in the request URI refers to the body camera ID.

6.20 /ISAPI/Traffic/dockStation/deviceManagement/capabilities? format=json

Get capability of body camera management.

Request URI Definition

Table 6-29 GET /ISAPI/Traffic/dockStation/deviceManagement/capabilities?format=json

Method	GET
Description	Get capability of body camera management.
Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_Cap_DeviceInfo</u> Failed: <u>JSON_ResponseStatus</u>

6.21 /ISAPI/Traffic/dockStation/deviceManagement?format=json

Get information of all body cameras, or add a body camera.

Table 6-30 GET /ISAPI/Traffic/dockStation/deviceManagement?format=json

Method	GET
Description	Get information of all body cameras.

Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_DeviceInfoList</u>
	Failed: JSON_ResponseStatus

Table 6-31 POST /ISAPI/Traffic/dockStation/deviceManagement?format=json

Method	POST
Description	Add a body camera.
Query	format: determine the format of request or response message.
Request	JSON_DeviceInfo
Response	JSON_ResponseStatus

6.22 /ISAPI/Traffic/dockStation/personManagement/<ID>?format=json

Set a person's information, or delete a person.

Table 6-32 PUT /ISAPI/Traffic/dockStation/personManagement/<ID>?format=json

Method	PUT
Description	Set a person's information.
Query	format : determine the format of request or response message. security : the version No. of encryption scheme. When security does not exist, it indicates that the data is not encrypted; when security is 1, it indicates that the nodes of sensitive information in the message are encrypted in AES128 CBC mode; when security is 2, it indicates that the nodes of sensitive information in the message are encrypted in AES256 CBC mode. iv : the initialization vector, and it is required when security is 1 or 2.
Request	JSON_PersonInfo
Response	JSON_ResponseStatus

Table 6-33 DELETE /ISAPI/Traffic/dockStation/personManagement/<ID>?format=json

Method	DELETE
Description	Delete a person.
Query	format: determine the format of request or response message.
Request	None
Response	JSON_ResponseStatus

Remarks

The <ID> in the request URI refers to the person ID.

6.23 /ISAPI/Traffic/dockStation/personManagement/capabilities? format=json

Get person management capability.

Request URI Definition

Table 6-34 GET /ISAPI/Traffic/dockStation/personManagement/capabilities?format=json

Method	GET
Description	Get person management capability.
Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_Cap_PersonInfo</u>
	Failed: JSON_ResponseStatus

6.24 /ISAPI/Traffic/dockStation/personManagement?format=json

Get all persons' information, or add a person.

Table 6-35 GET /ISAPI/Traffic/dockStation/personManagement?format=json

Method	GET
Description	Get all persons' information.

Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_PersonInfoList</u>
	Failed: <u>JSON_ResponseStatus</u>

Table 6-36 POST /ISAPI/Traffic/dockStation/personManagement?format=json

Method	POST
Description	Add a person.
Query	security: the version No. of encryption scheme. When security does not exist, it indicates that the data is not encrypted; when security is 1, it indicates that the nodes of sensitive information in the message are encrypted in AES128 CBC mode; when security is 2, it indicates that the nodes of sensitive information in the message are encrypted in AES256 CBC mode. iv: the initialization vector, and it is required when security is 1 or 2. format: determine the format of request or response message.
Request	JSON_PersonInfo
Response	JSON_ResponseStatus

6.25 /ISAPI/Traffic/DockStation/PlatformConfig/schedule/capabilities? format=json

Get schedule configuration capability of uploading files to platform.

Table 6-37 GET /ISAPI/Traffic/DockStation/PlatformConfig/schedule/capabilities?format=json

Method	GET
Description	Get schedule configuration capability of uploading files to platform.
Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_ScheduleCap</u>
	Failed: <u>JSON_ResponseStatus</u>

6.26 /ISAPI/Traffic/dockStation/platformConfig/schedule?format=json

Get or set schedule parameters of uploading files to platform.

Request URI Definition

Table 6-38 GET /ISAPI/Traffic/dockStation/platformConfig/schedule?format=json

Method	GET
Description	Get schedule parameters of uploading files to platform.
Query	format: determine the format of request or response message.
Request	None
Response	Succeeded: <u>JSON_Schedule</u>
	Failed: JSON_ResponseStatus

Table 6-39 PUT /ISAPI/Traffic/dockStation/platformConfig/schedule?format=json

Method	PUT
Description	Set schedule parameters of uploading files to platform.
Query	format: determine the format of request or response message.
Request	JSON_Schedule
Response	JSON_ResponseStatus

6.27 /ISAPI/Traffic/dockStation/slot/open?format=json

Open the storage bin.

Table 6-40 PUT /ISAPI/Traffic/dockStation/slot/open?format=json

Method	PUT
Description	Open the storage bin.
Query	format: determine the format of request or response message.
Request	JSON_UserInfo
Response	JSON_ResponseStatus

6.28 ISAPI/Traffic/dockStation/slot/priorityCollection?format=json

Set priority parameters of collection.

Table 6-41 PUT ISAPI/Traffic/dockStation/slot/priorityCollection?format=json

Method	PUT
Description	Set priority parameters of collection.
Query	format: determine the format of request or response message.
Request	JSON_PriorityCollection
Response	JSON_ResponseStatus

Chapter 7 Request and Response Message

The request and response messages in XML or JSON format of each request URL are listed here for reference. You can search for the parameters by the message name.

7.1 JSON_BasicInfo

JSON message about basic parameters of dock station

```
"BasicInfo":{
  "dockStationID":"",
/*required, string, dock station No., if this node is not returned, it indicates that the ID cannot be edited*/
  "videoFormatList":[{
/*required, array, video format, the value can be "mp4", "MP4", "Mp4", and "mP4"; the maximum size is 32 bytes*/
   "type":""
   "type":""
  "imageFormatList":[{
/*required, array, picture format, the value can be "JPG", "JPg", "JpG", "Jpg", "jpg", "jpG", "jPg", and "jPG"; the
maximum size is 32 bytes*/
   "type":""
   "type":""
  }],
  "audioFormatList":[{
/*required, array, audio format, the value can be "WAV", "Wav", "WAV", "WAV", "wAV", "wAV", and "wav"; the
maximum size is 32 bytes*/
   "type": ""
   "type": ""
  }]
```

7.2 JSON_Cap_DeviceInfo

JSON message about capability of body camera management

```
{
   "DeviceInfo":{
    "deviceId":{
```

```
/*optional, string, body camera No.*/
   "@min":4,
/*minimum value of length range*/
   "@max":32
/*maximum value of length range*/
  "deviceName":{
/*required, string, body camera name*/
   "@min":4,
/*minimum value of length range*/
   "@max":32
/*maximum value of length range*/
  "deviceUserList":{
/*required, user information list*/
   "userId":{
    "@min":4,
/*minimum value of length range*/
    "@max":32
/*maximum value of length range*/
  }
 }
}
```

7.3 JSON_Cap_PersonInfo

JSON message about person management capability

```
"PersonInfo":{
  "id":{
/*required, string, user No.*/
   "@min":4,
/*minimum value of length range*/
   "@max":32
/*maximum value of length range*/
  },
  "name":{
/*requird, string, user name*/
   "@min":4,
/*minimum value of length range*/
   "@max":32
/*maximum value of length range*/
  "password":{
/*required, string, user password*/
   "@min":6,
/*minimum value of length range*/
   "@max":32
```

```
/*maximum value of length range*/
  "filePermission":{
/*required, boolean, whether to assign file search permission*/
   "@opt":"true,false"
  "mobile":{
/*optional, string, user contacts*/
   "@min":4,
/*minimum value of length range*/
   "@max":12
/*maximum value of length range*/
  "filePermissionsuper":{
/*required, boolean, whether it has the permission of super administrator*/
   "@opt":"true,false"
  "collectStatus":{
/*required, boolean, whether the face data is collected by this person, it is read-only*/
   "@opt":"true,false"
  "deviceId":{
/*required, string, body camera ID*/
   "@min":4,
/*minimum length of the range*/
   "@max":12
/*maximum length of the range*/
 },
}
```

7.4 JSON_DeviceInfo

JSON message about a body camera's information

```
{
  "DeviceInfo":{
    "deviceId":"",
  /*optional, string, body camera No.*/
    "deviceName":"",
  /*required, string, body camera name*/
    "deviceUserList":[{
    /*required, user information list*/
    "userId":""
  }]
  }
}
```

7.5 JSON_DeviceInfoList

JSON message about information list of body camera

```
{
  "DeviceInfoList":[{
    "DeviceInfo":{
      "deviceId":"",
      /*optional, string, body camera No.*/
      "deviceName":"",
      /*required, string, body camera name*/
      "deviceUserList":[{
      /*required, user information list*/
            "userId":""
      }]
    }
}
```

7.6 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*/
```

7.7 JSON_EventNotificationAlert_DockStationExceptionAlarmMsg

JSON message about alarm details of dock station exception

```
"ipAddress": "",
/*required, string, IPv4 address of alarm device, the maximum value size is 32 bytes, e.g., 172.6.64.7*/
 "ipv6Address": "".
/*required, string, IPv6 address of alarm device, the maximum value size is 128 bytes*/
 "portNo":,
/*optional, integer32, port No. of alarm device*/
 "protocol": "",
/*optional, string, protocol type: "HTTP"-for device network SDK, "HTTPS", "EHome"-for ISUP SDK; the maximum
value size is 32 bytes*/
 "macAddress": "",
/*optional, string, MAC address, the maximum value size is 32 bytes, e.g., 01:17:24:45:D9:F4*/
 "channelID":,
/*optional, integer32, No. of alarm triggered channel*/
 "dateTime": "",
/*required, string, alarm triggered time (ISO 8601 format), the maximum value size is 32 bytes, e.g.,
2004-05-03T17:30:08+08:00*/
 "activePostCount":,
/*required, integer32, uploaded times of one alarm*/
 "eventType": "",
/*required, string, occurred event type, here it should be set to "dockStationExceptionPrompt"; the maximum value
size is 128 bytes*/
 "eventState": ""
/*required, string, event status: "active"-occurred, "inactive"-unoccurred (heartbeat data); the maximum value size is
32 bytes*/
 "eventDescription": "",
/*required, event description, the maximum value size is 128 bytes*/
 "deviceID": "",
/*optional, string, device ID, it must be returned during the integration of ISUP SDK*/
 "DockStationExceptionPrompt": {
  "exception ": ""
/*string, exception status: "diskexception"-HDD exception, "485DIPConflict"-RS-485 dial-up conflicted,
"notEnoughSpace"-memory full*/
 }
}
```

7.8 JSON_EventNotificationAlert_DockStationStatusMsg

JSON message about status information of dock station

```
"ipAddress": ""
/*required, string, IPv4 address of alarm device, the maximum value size is 32 bytes, e.g., 172.6.64.7*/
 "ipv6Address": "",
/*required, string, IPv6 address of alarm device, the maximum value size is 128 bytes*/
 "portNo":,
/*optional, integer32, port No. of alarm device*/
 "protocol": "",
/*optional, string, protocol type: "HTTP"-for device network SDK, "HTTPS", "EHome"-for ISUP SDK; the maximum
value size is 32 bytes*/
"macAddress": "",
/*optional, string, MAC address, the maximum value size is 32 bytes, e.g., 01:17:24:45:D9:F4*/
 "channelID":,
/*optional, integer32, No. of alarm triggered channel*/
 "dateTime": "",
/*required, string, alarm triggered time (ISO 8601 format), the maximum value size is 32 bytes, e.g.,
2004-05-03T17:30:08+08:00*/
 "activePostCount":,
/*required, integer32, uploaded times of one alarm*/
"eventType": "",
/*required, string, occurred event type, here it should be set to "dockStationExceptionPrompt"; the maximum value
size is 128 bytes*/
"eventState": "",
/*required, string, event status: "active"-occurred, "inactive"-unoccurred (heartbeat data); the maximum value size is
32 bytes*/
 "eventDescription": "",
/*required, event description, the maximum value size is 128 bytes*/
"deviceID": "",
/*optional, string, device ID, it must be returned during the integration of ISUP SDK*/
 "DockStationstatus":{
/*required, dock station status*/
  "networkStatus":"",
/*required, string, network connection status of dock station: "disconnected", "connected"*/
  "platformConnectionStatus":"",
/*required, string, connection status between dock station and platform: "disconnected", "connected"*/
  "SlotInfo":[{
/*optional, storage bin information*/
   "slotID":,
/*required, int, storage bin ID*/
   "connectionStatus":"",
/*required, string, connection status of body camera: "unconnected", "connected"*/
   "BodyCameraInfo": {
/*dependent, body camera information, this node is valid only when ConnectionStatus is "connected"*/
    "BasicInfo":{
     "deviceNo":""
/*required, int, body camera ID*/
     "personNo":"",
```

```
/*required, int, law enforcement person ID*/
     "personName":""
/*required, int, law enforcement person name*/
    "BatteryInfo":{
     "Remaining":
/*required, int, current power, which is between 0 and 100*/
    "isCollecting":,
/*required, whether it is in collection status*/
    "CollectionProgress": {
/*dependent, this node is valid only when isCollecting is true*/
     "numberofCollectedFiles":,
/*required, int, number of collected files*/
     "numberofAudios":,
/*required, int, number of audio files to be collected*/
     "numberofVideos":,
/*required, int, number of video files to be collected*/
     "numberofPictures":,
/*required, int, number of picture files to be collected*/
     "totalNumberofFiles":
/*required, int, total number of files to be collected*/
  }]
}
```

7.9 JSON_EventNotificationAlert_InstantTrafficDataMsg

The instant traffic data is uploaded in JSON format of EventNotificationAlert, and here shows an example.

```
"ipAddress":172.6.64.7,
/*required, string, IPv4 address of alarm device, the maximum size is 32 bytes*/
 "ipv6Address":"",
/*optional, string, IPv6 address of alarm device, the maximum size is 128 bytes*/
 "portNo":80,
/*optional, integer32, port No. of alarm device*/
 "protocol":"HTTP",
/*optional, string, protocol type: "HTTP", "HTTPS", "EHome", the maximum size is 32 bytes*/
"macAddress":"01:17:24:45:D9:F4",
/*optional, string, MAC address, the maximum size is 32 bytes*/
"channelID":1,
/*optional, integer32, device channel No. that triggers alarms*/
 "dateTime": "2004-05-03T17:30:08+08:00",
/*required, string, alarm triggering time in ISO 8601 time format, the maximum size is 32 bytes*/
 "activePostCount":1,
/*required, integer32, times of the same alarm that has been uploaded*/
```

```
"eventType":"TTD".
/*required, string, triggered event type, the maximum size is 128 bytes. Here it should be set to "TTD" (instant traffic
data)*/
"eventState":"active".
/*required, event triggering status: "active"-triggered, "inactive"-not triggered (heartbeat data), the maximum size is
32 bytes*/
 "eventDescription": "Traffic Transient Data",
/*required, string, event description, the maximum size is 128 bytes*/
 "channelName": "ABC",
/*required, channel name (camera name)*/
"deviceID": "test0123",
/*optional, device ID, it is also the PUID and must be returned when transmitting ISAPI event information via ISUP*/
 "TTD":{
/*information about uploaded instant traffic data*/
  "totalLaneNum":18,
/*required, integer, number of valid lanes, it is between 1 and 18*/
  "LaneInfo":[{
/*required, lane information*/
   "laneNo":18,
/*required, integer, lane No., it is between 1 and 18*/
   "smallCarNum":20,
/*required, integer, number of small-sized vehicles*/
   "midsizeCarNum":20,
/*required, integer, number of medium-sized vehicles*/
   "heavyVehicleNum":20,
/*required, integer, number of heavy vehicles*/
   "nonmotorVehicleNum":20,
/*required, integer, number of non-motor vehicles*/
   "aversgeSpeed":60,
/*required, integer, average speed of vehicles passing in the lane, unit: km/h*/
   "parkingVehicleNum":2,
/*required, integer, number of vehicles parking in the lane*/
   "channelizationLaneNo":2,
/*optional, inetger, channelized lane No.*/
   "queueLen":10,
/*required, integer, queue length, unit: meter*/
   "farthestVehicleDistance":10
/*optional, integer, distance of the farthest vehicle (it is calculated by the radar), unit: meter*/
  "totalCustomRegionNum":2,
/*optional, integer, number of custom areas, it is between 1 and 2*/
  "CustomRegionInfo":[{
/*optional, custom area information*/
   "regionNo":2,
/*required, integer, area No., it is between 1 and 2*/
   "smallCarNum":20,
/*required, integer, number of small-sized vehicles*/
   "midsizeCarNum":20,
/*required, integer, number of medium-sized vehicles*/
   "heavyVehicleNum":20,
/*required, integer, number of heavy vehicles*/
   "nonmotorVehicleNum":20,
```

```
/*required, integer, number of non-motor vehicles*/
   "aversgeSpeed":60
/*required, integer, average speed of vehicles passing in the lane, unit: km/h*/
}]
}
```

7.10 JSON_EventNotificationAlert_PackingSpaceRecognition

JSON message about details of the parking space detection event

```
"ipAddress":""
/*required, string, IPv4 address of the device that triggers the alarm*/
/*optional, string, IPv6 address of the device that triggers the alarm*/
 "portNo":,
/*optional, int, port No. of the device that triggers the alarm*/
"protocol":"",
/*optional, string, transmission communication protocol type: "HTTP", "HTTPS", "EHome". The value should be
"HTTP" when ISAPI protocol is transmitted via EZVIZ protocol. The value should be "EHome" when ISAPI protocol is
transmitted via ISUP*/
 "macAddress":""
/*optional, string, MAC address*/
 "channelID":"",
/*optional, int, channel number of the device that triggers the alarm*/
 "dateTime":"",
/*required, string, alarm triggering time*/
 "activePostCount":,
/*required, int, times that the same alarm has been uploaded*/
 "eventType":"",
/*required, string, triggered event type, here it should be "PackingSpaceRecognition" (parking space information)*/
"eventState":"",
/*required, string, continuous event's status: "active" (valid event), "inactive" (invalid event)*/
 "eventDescription":"",
/*required, string, event description*/
 "channelName": "",
/*optional, string, channel name (camera name)*/
 "deviceID": "",
/*optional, device ID*/
"serialNumber": "",
/*optional, string, device serial No.*/
 "CameraInfo":{
/*optional, object, camera information*/
  "positionNum":"undefined",
/*optional, string, camera number, which can be configured by calling /ISAPI/System/Video/inputs/channels/
<channelID>/cameraInfo, and the maximum string size is 128 bytes*/
  "positionInfo": "undefined"
/*optional, string, information about the camera location, which can be configured by calling /ISAPI/System/Video/
inputs/channels/<channelID>/cameraInfo, and the maximum string size is 128 bytes*/
```

```
"PackingSpaceRecognition":[{
  "alarmStartTime":"2018-11-13T20:20:39.000+08:00",
/*optional, string, alarm start time (time when the alarm is triggered), the string size is between 25 bytes and 36
bytes, e.g., "2018-11-13T20:20:39.000+08:00"*/
  "alarmEndTime":"2018-11-13T20:20:39.000+08:00",
/*optional, string, alarm end time (time when the alarm stops), the string size is between 25 bytes and 36 bytes, e.g.,
"2018-11-13T20:20:39.000+08:00"*/
  "parkingSpacesNum":1,
/*optional, int, number of parking spaces in a picture*/
  "isParked":"yes",
/*required, string, parking space status: "yes" (with a vehicle parked), "no" (without a vehicle parked)*/
  "parkingStatus": "normal",
/*optional, string, parking status: "normal" (default), "abnormal"*/
  "parkingAbnormalStatus": "drivingOnLaneLine",
/*optional, string, sub-type of the abnormal parking status: "drivingOnLaneLine" (parking the vehicle on the line),
"largeVehicleOccupiesSmallSpace" (parking space for small-sized vehicle occupied by large-sized vehicle),
"noParkingZone" (parking the vehicle in the no-parking zone). This field is valid when the value of parkingStatus is
"abnormal"*/
  "isCrossLaneParking":"unknow",
/*optional, string, whether the vehicle is parked over the line: "unknown", "true" (yes), "false" (no). This field is valid
when the value of parkingStatus is "abnormal"*/
  "isAcrossBerthParking":"unknow",
/*optional, string, whether the vehicle occupies two parking spaces: "unknown", "true" (yes), "false" (no). This field is
valid when the value of parkingStatus is "abnormal"*/
  "isTiltParking":"unknow",
/*optional, string, whether the vehicle is angulately parked: "unknown", "true" (yes), "false" (no). This field is valid
when the value of parkingStatus is "abnormal"*/
  "vehicleHeadTailStatus": "unknow",
/*optional, string, vehicle head/tail status: "unknow", "head", "tail"*/
  "absoulteParkingNum":"123",
/*optional, string, parking space number. The parking space number is the number drawn on the parking space and is
obtained by the captured picture*/
  "relativeParkingNum":0,
/*optional, int, logical parking space number. The logical parking space number is the number from the left to the
right automatically allocated by the device. For example, there are three parking spaces detected by the device, and
the number of each parking space is 0, 1, and 2. Now the field virtualParkingNum is recommended*/
  "plateNo":"noPlate",
/*required, string, license plate number: "noPlate" (vehicle without license plate), "unknown" (no license plate
recognized), "XXXXXX" (recognized license plate number, which is a 16-byte string). When the value of
plateRecognitionEnabled in the message of /ISAPI/Parking/channels/<channelID>/packingSpaceRecognition?
format=json is true, the device will upload this field*/
  "regionalID":1,
/*optional, int, detection area ID. The area ID is configured when you configure the parking space detection area for
the device. If this field is not configured, the device will not upload this field. Related URI and fields: regionalID of
PackingSpaceRegionList in the message of /ISAPI/Parking/channels/<channelID>/packingSpaceRecognition?
format=json*/
  "virtualParkingNum":"123",
/*optional, string, virtual parking space number. The virtual parking space number is the number configured when you
configure the detection list of parking spaces for the device. If this field is not configured, the device will not upload
this field. Related URI and fields: virtualParkingNum of PackingSpaceInfoList in the message of /ISAPI/Parking/
channels/<channelID>/packingSpaceRecognition?format=json*/
```

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```
"detectMode": "pollingAlarm",
/*optional, string, detection mode: "pollingAlarm" (parking space inspection), "snapshot" (intelligent inspection by
captured pictures (inspection by scheduled captured pictures of parking spaces))*/
  "vehicleEnterState":"enter".
/*optional, string, vehicle entering and exiting status: "enter". "exit"*/
  "VehicleEnterTriggerConfidence":50,
/*optional, int, confidence of detection triggered by vehicle entering and exiting, value range: [0,100]*/
  "plateConfidence":50,
/*optional, int, license plate confidence, value range: [0,100]. When the value of plateRecognitionEnabled in the
message of /ISAPI/Parking/channels/<channelID>/packingSpaceRecognition?format=json is true, the device will
upload this field*/
  "Region":[{
/*optional, array of object, coordinate of the parking space area*/
   "Point":{
/*optional, object, coordinate of the point*/
    "positionX":0.123,
/*required, float, X-coordinate, value range: [0,1]. The value is normalized to a number between 0 and 1 and accurate
to three decimal places. The origin is the upper-left corner of the image*/
    "positionY":0.123
/*required, float, Y-coordinate, value range: [0,1]. The value is normalized to a number between 0 and 1 and accurate
to three decimal places. The origin is the upper-left corner of the image*/
  }
  }],
  "VehicleInfo":{
/*optional, object, vehicle information. When the value of plateRecognitionEnabled in the message of /ISAPI/Parking/
channels/<channelID>/packingSpaceRecognition?format=json is true, the device will upload this field*/
   "vehicleColor": "black",
/*optional, string, vehicle color: "black", "blue", "brown", "cyan", "deepBlue", "deepGray", "gray", "green", "orange",
"pink", "purple", "red", "silver", "unknown", "white", "yellow"*/
   "vehicleType":"unknown",
/*required, string, vehicle type: "SUVMPV" (SUV/MPV), "buggy" (small-sized truck), "bus", "concreteMixer" (concrete
mixer), "containerTruck" (container truck), "coupe", "crane", "hatchback", "largeBus" (large-sized bus), "lightTruck"
(light truck), "mediumBus" (middle-sized bus), "mediumHeavyTruck" (medium and heavy truck), "miniCar" (mini
sedan (transformed to "vehicle")), "minibus", "minitruck", "motorVehicle" (motor vehicle (transformed to "vehicle")),
"nonmotorVehicle" (non-motor vehicle (transformed to "threeWheelVehicle")), "oilTankTruck" (oil tank truck),
"pedestrian", "pickupTruck" (pickup truck (transformed to "buggy")), "platformTrailer" (platform trailer), "saloon",
"slagTruck" (dump truck), "smallCar" (small sedan (transformed to "vehicle")), "threeWheelVehicle" (tricycle), "truck",
"twoWheelVehicle" (two wheeler), "unknown", "van", "vehicle" (sedan)*/
   "vehicleColorDepth": "deep",
/*optional, string, vehicle color shade: "deep" (dark), "shallow" (light)*/
   "speed":0,
/*optional, int, vehicle speed, value range: [0,300], unit: km/h*/
   "vehicleLogoRecog":1025,
/*optional, int, index of the vehicle main brand, value range: [1025,1801]. For details, refer to Main Vehicle Brand
Reference*/
   "vehileSubLogoRecog":0,
/*optional, int, vehicle sub-brand index, value range: [0,100]*/
   "vehileModel":0
/*optional, int, index of the vehicle sub-brand model, value range: [0,100]*/
  "PlateInfo":{
/*optional, object, license plate information. If the value of plateRecognitionEnabled in the message of /ISAPI/
```

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```
Parking/channels/<channelID>/packingSpaceRecognition?format=json is true, the device will upload this field*/
   "CRIndex":"0",
/*optional, string, country/region of the license plate recognition. For details, refer to Country/Region Code*/
   "plateType":"unknown",
/*optional, string, license plate type: "unknown", "92TypeCivil"-92 civil vehicle, "92FarmVehicle"-civil vehicle two-line
license plate, "arm"-police vehicle, "upDownMilitay"-military vehicle (up/down format), "92TypeArm"-92 armed
police vehicle, "leftRightMilitay"-military vehicle (left/right format), "02TypePersonalized"-02 personalized vehicle,
"yellowTwoLine"-yellow two-line license plate, "04NewMilitay"-04 new military vehicle, "embassy"-embassy car,
"oneLineArm"-new armed police vehicle with one-line structure, "twoLineArm"-new armed police vehicle with two-
line structure, "yellow1225FarmVehicle"-yellow agricultural vehicle with 1225 structure, "green1325FarmVehicle"-
green agricultural vehicle with 1325 structure, "yellow1325FarmVehicle"-yellow agricultural vehicle with 1325
structure, "motorola"-motorcycle, "newEnergy"-new energy vehicle license plate, "civilAviation"-civil aviation license
plate, "coach"-driver-training car, "tempTravl"-temporary license plate car, "trailer", "consulate"-consulate car,
"hongKongMacao"-vehicle entering and exiting Hong Kong and Macao, "tempEntry"-temporary entry car,
"emergency"-emergency license plate, "oneLineArmHeadquarters"-armed police headquarter license plate (one-line),
"twoLineArmHeadquarters"-armed police headquarter license plate (two-line)*/
   "plateColor": "black",
/*optional, string, license plate color: "black", "blue", "golden", "orange", "red", "yellow", "white", "unknow", "other",
"newEnergyYellowGreen" (new energy green and yellow), "civilAviationBlack" (civil aviation black),
"civilAviationGreen" (civil aviation green), "green", "mixedColor" (mixed color), "newEnergyGreen" (new energy
green)*/
   "plateBright":0,
/*optional, int, licence plate brightness, value range: [0,100]*/
   "plateRecgDirection": "forward",
/*optional, string, direction for license plate recognition: "forward" (front LPR), "unknown", "back" (rear LPR)*/
   "captureTime": "2017-08-01T17:30:08.999+08:00",
/*optional, string, license plate capture time, the string size is between 25 bytes and 32 bytes, and the value is
accurate to millisecond, e.g., "2017-08-01T17:30:08.999+08:00"*/
   "PlateCharacterConfidenceList":[{
/*optional, array of object, list of confidence of license plate's characters. The number of lists is the same as that of
license plate's characters*/
    "plateCharacterConfidence":0.0
/*optional, float, confidence of the license plate's character, value range: [0,100.00]. The value is accurate to two
decimal places. For example, if the confidence of characters in the license plate "ZA12345" is 20, 30, 40, 50, 60, and
70, it indicates that the possibility that the first character recognized is "Z" is 20%, the possibility that the second
character recognized is "A" is 30%, and so forth*/
   }],
   "PlateRecognitionRegion":[{
/*optional, array of object, coordinate of the license plate recognition area, up to 4 areas can be supported*/
    "Point":{
/*optional, object, coordinate of points*/
     "positionX":0.123,
/*required, float, X-coordinate, value range: [0,1]. The value is accurate to three decimal places. The origin is the
upper-left corner of the image*/
     "positionY":0.123
/*required, float, Y-coordinate, value range: [0,1]. The value is accurate to three decimal places. The origin is the
upper-left corner of the image*/
    }
   }]
  "IllegalInfo":{
/*optional, object, violation information*/
```

```
"illegalCode":"test".
/*optional, string, violation code*/
   "illegalName":"test",
/*optional, string, violation name*/
   "illegalConfidence":0,
/*optional, int, violation confidence, value range: [0,100]*/
   "illegalDescription":"test",
/*optional, string, violation description*/
   "illegalDurationTime":0
/*optional, int, violation duration, unit: ms. The value is the time difference between the capture time of the first
picture and that of the last picture*/
 }
}],
 "PicResources": {
/*optional, object, background picture*/
  "resourcesContentType": "",
/*required, string, resource transmission type: "url" (URL), "binary" (binary data). This field must be returned when
the alarm message uploaded by the device contains additional resources (e.g., picture)*/
  "resourcesContent": ""
/*required, string, resource ID, the maximum string size is 128 bytes. This field must be returned when the alarm
message uploaded by the device contains additional resources (e.g., picture). When the value of
resourcesContentType is "binary", this field corresponds to the Content-ID of the picture. When the value of
resourcesContentType is "url", the value of this field is the specific URL*/
"PlateImageResources":{
/*optional, object, license plate picture*/
  "resourcesContentType":"binary",
/*required, string, resource transmission type: "url" (URL), "binary" (binary data). This field must be returned when
the alarm message uploaded by the device contains additional resources (e.g., picture)*/
  "resourcesContent": "plateImage"
/*required, string, resource ID, the maximum string size is 128 bytes. This field must be returned when the alarm
message uploaded by the device contains additional resources (e.g., picture). When the value of
resourcesContentType is "binary", this field corresponds to the Content-ID of the picture. When the value of
resourcesContentType is "url", the value of this field is the specific URL*/
"illegalOccupancy":true,
/*optional, boolean, whether the parking space is occupied illegally. When the value of illegalOccupancyEnabled in
the message of /ISAPI/Parking/channels/<channelID>/packingSpaceRecognition?format=json, the device will upload
this field*/
"totalPackingSpaces":4,
/*optional, int, total number of detected parking spaces*/
 "leftPackingSpaces":3
/*optional, int, number of detected vacant parking spaces*/
```

See Also

Main Vehicle Brand Reference

7.11 JSON_EventNotificationAlert_TrafficStatisticsAlarmMsg

Message about details of the traffic data collection alarm in JSON format.

```
"ipAddress":""
/*required, string, IPv4 address of the alarm device, the maximum size is 32 bytes*/
 "ipv6Address":""
/*optional, string, IPv6 address of the alarm device, the maximum size is 128 bytes*/
 "portNo":,
/*optional, integer32, port No. of the alarm device*/
 "protocol": "",
/*optional, string, protocol type: "HTTP" or "HTTPS", the maximum size is 32 bytes*/
 "macAddress": "
/*optional, string, MAC address, the maximum size is 32 bytes*/
 "channelID":,
/*optional, integer32, device channel No. that triggers alarm*/
"dateTime": "".
/*required, string, time in ISO8601 time format when the alarm is triggered, the maximum size is 32 bytes*/
 "activePostCount":,
/*required, integer32, times of the same alarm being uploaded*/
 "eventType": "",
/*required, string, event type that triggers alarm, the maximum size is 128 bytes. Here it should be set to "TPS" (traffic
statistics)*/
"eventState": "",
/*required, string, event status: "active"-triggered, "inactive"-not triggered (heartbeat data), the maximum size is 32
bytes*/
 "eventDescription": "",
/*required, string, event description: "traffic statistics" (passing vehicle statistics), the maximum size is 128 bytes*/
 "deviceID": "",
/*optional, PUID, which should be returned in ISUP alarm*/
 "Target": [{
  "recognitionType": "",
/*required, recognition type in traffic statistics*/
  "TargetInfo": {
/*required, target information*/
   "recognition": "",
/*required, specific recognition target*/
   "startTime": "",
/*required, statistics start time*/
   "samplePeriod":,
/*required, statistics period, unit: second*/
   "totalLaneNum":,
/*required, integer, number of valid lanes, the value ranges from 1 to 18*/
   "LaneInfo": [{
/*required, lane information*/
    "laneNo":,
/*required, integer, lane No., the value ranges from 1 to 18*/
    "aversgeSpeed":,
/*required, integer, average speed of vehicles traveling on the lane, unit: km/h*/
    "smallCarNum":,
```

```
/*required, integer, number of small-sized vehicles*/
    "midsizeCarNum":,
/*required, integer, number of medium-sized vehicles*/
    "heavyVehicleNum":,
/*required, integer, number of heavy vehicles*/
    "headTimeInterval":,
/*required, integer, time headway, unit: second*/
    "headInterval":,
/*required, integer, space headway, unit: meter*/
    "spaceOccupyRation":,
/*required, float, lane space occupancy, which is between 0% and 100.000%, and it is accurate to three decimal
places*/
    "timeOccupyRation":,
/*required, float, lane time occupancy, which is between 0% and 100.000%, and it is accurate to three decimal
places*/
    "channelizationLaneNo":,
/*optional, integer, channelized lane No.*/
    "averageParkingTime":,
/*optional, integer, average parking times*/
    "averageDelay":,
/*optional, integer, average delay time, unit: second*/
    "averageQueueLen":
/*optional, integer, average queuing length, unit: meter*/
   "totalCoilNum":,
/*optional, integer, number of valid coils, the value ranges from 1 to 40*/
   "CoilInfo": [{
/*optional, coil information*/
    "coilNo":,
/*required, integer, coil No.*/
    "laneNo":,
/*required, integer, lane No., the value ranges from 1 to 18*/
    "aversgeSpeed":,
/*required, integer, average speed of vehicles passing by the lane, unit: km/h*/
    "smallCarNum":,
/*required, integer, number of small-sized vehicles*/
    "midsizeCarNum":,
/*required, integer, number of medium-sized vehicles*/
    "heavyVehicleNum":,
/*required, integer, number of heavy vehicles*/
    "headTimeInterval":,
/*required, integer, time headway, unit: second*/
    "headInterval":,
/*required, integer, space headway, unit: meter*/
    "spaceOccupyRation":,
/*required, float, lane space occupancy, which is between 0% and 100.000%, and it is accurate to three decimal
places*/
    "timeOccupyRation":,
/*required, float, lane time occupancy, which is between 0% and 100.000%, and it is accurate to three decimal
places*/
    "channelizationLaneNo":,
/*optional, integer, channelized lane No.*/
```

```
"nonmotorVehicleNum":
/*optional, integer, number of non-motor vehicles*/
   }]
 }],
 "Location":{
/*optional, device location*/
  "Ing":,
/*required, float, longitude*/
  "lat":
/*optional, float, latitude*/
 },
 "algorithmInfo":{
/*algorithm version information, this field is required for secondary analysis*/
  "algorithmId":"",
/*optional, string, algorithm package ID*/
  "algoVendorId":"",
/*optional, string, manufacturer ID*/
  "algoVersionId":"",
/*optional, string, algorithm version ID*/
  "algoChipType":"",
/*optional, string, chip type*/
  "algoModelVersion":""
/*optional, string, model version*/
}
}
```

Example

Example of Receiving Traffic Statistics Alarm in Arming Mode

```
GET /ISAPI/Event/notification/alertStream HTTP/1.1
Accept: text/html, application/xhtml+json, */*
Accept-Language: en-US
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; Trident/7.0; rv:11.0) like Gecko
Accept-Encoding: gzip, deflate
Host: 10.17.133.46
DNT: 1
Connection: Keep-Alive
Cookie: language=zh; sdMarkMenu=8%3Avehicle; sdMarkTab 1 0=0%3AsettingBasic;
sdMarkTab 6 0=5%3AeventException; sdMarkTab 6 1=6%3AsmartLoiterDetection;
sdMarkTab_7_0=1%3AplanCapture; sdMarkTab_7_1=0%3AstorageManageHarddisk;
sdMarkTab 8=0%3AvehicleParam; WebSession=f81610c130711300cf30
HTTP/1.1 200 OK
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary=boundary
--boundary
Content-Type: application/json
 "ipAddress":"172.6.64.7",
```

```
"portNo": 80,
"protocol": "HTTP",
"macAddress": "01:17:24:45:D9:F4",
"channelID": 1,
"dateTime": "2009-11-14T15:27+08:00",
"activePostCount": 1,
"eventType": "TPS",
"eventState": "active",
"eventDescription": "traffic statistics",
"deviceID": "test0123",
"Target": [{
 "recognitionType": "vehicle",
 "TargetInfo": {
  "recognition": "TPS",
  "startTime": "2004-05-03T17:30:08.000+080:00",
  "samplePeriod": 3600,
  "totalLaneNum": 18,
  "LaneInfo": [{
   "laneNo": 18,
   "aversgeSpeed": 60,
   "smallCarNum": 20,
   "midsizeCarNum": 20,
   "heavyVehicleNum": 20,
   "headTimeInterval": 20,
   "headInterval": 20,
   "spaceOccupyRation": 20.000,
   "timeOccupyRation": 20.000,
   "channelizationLaneNo": 2,
   "averageParkingTime": 2,
   "averageDelay": 2,
   "averageQueueLen": 2
  }],
  "totalCoilNum": 40,
  "CoilInfo": [{
   "coilNo": 18,
   "laneNo": 18,
   "aversgeSpeed": 60,
   "smallCarNum": 20,
   "midsizeCarNum": 20,
   "heavyVehicleNum": 20,
   "headTimeInterval": 20,
   "headInterval": 20,
   "spaceOccupyRation": 20.000,
   "timeOccupyRation": 20.000,
   "channelizationLaneNo": 2,
   "nonmotorVehicleNum": 20
 }]
}
}]
"Location": {
 "lng": "116.46",
 "lat": "39.92"
```

```
},
}--boundary
```

Example

Example of Receiving Traffic Statistics Alarm in Listening Mode

```
POST /test HTTP/1.1
Accept: text/html, application/xhtml+json, */*
Accept-Language: en-US
Content-Type: multipart/form-data; boundary=-----7e13971310878
User-Agent: Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; WOW64; Trident/5.0)
Accept-Encoding: gzip, deflate
Host: 10.10.36.29:8080
Content-Length: 9907
Connection: Keep-Alive
Cache-Control: no-cache
--boundary
Content-Disposition: form-data; name="tps.json";filename="tps.json";
Content-Type: text/json
Content-Length: 150
<EVENT_JSON>
--boundary--
HTTP/1.1 200 OK
test: mime
Connection: Keep-Alive
Content-Length: 183
Cache-Control: no-store
```

7.12 JSON_Filtration

Message about license plate filtration in JSON format

```
{
  "Filtration": {
    "enabled":
/*optional, boolean, whether to enable filtering duplicated license plate, by default, it is "false"*/
}
}
```

7.13 JSON_ParkingSpaceRecognitionSearchDescription

JSON message about conditions of searching for parking space detection events

```
{
    "ParkingSpaceRecognitionSearchDescription":{
```

```
"searchID": "",

/*required, string, search ID, which is used to check whether the current search requester is the same as the previous one; if they are the same, the search record will be stored in the device to speed up the next search*/

"searchResultPosition": ,

/*required, integer32, the end position of search result in result list; in a single search, if you cannot get all the records in the result list, you can mark the end position and get the following records after the marked position in the next search*/

"maxResults": ,

/*required, integer32, the maximum number of search results, which is defined by the device capability, will be returned if the value of maxResults reaches the limit; in this case, the device will not return error*/

}
```

7.14 JSON_ParkingSpaceRecognitionSearchResult

JSON message about result of searching for parking space detection events

```
"ParkingSpaceRecognitionSearchResult":{
  "searchID": "",
/*required, string, search ID, which is used to check whether the current search requester is the same as the previous
one; if they are the same, the search record will be stored in the device to speed up the next search*/
  "responseStatusStrg": "",
/*required, string, search status description: "OK"-search ended, "MORE"-searching, "NO MATCH"-no matched data
found*/
  "numOfMatches":,
/*required, integer32, number of records returned for one time*/
  "totalMatches":,
/*required, integer32, number of matched records returned for one time*/
  "PackingSpaceRecognition": [{
   "channelID":,
/*required, integer32, alarm channel No.*/
   "RegionInfo": [{
    "regionalID":,
/*required, int, detection region ID*/
    "PackingSpace": [{
     "absoulteParkingNum": "",
/*required, string, parking space No., and the maximum size is 16 bytes*/
     "virtualParkingNum": "",
/*optional, string, virtual parking space No.*/
     "isParked": ""
/*required, string, parking space status: "yes"-a vehicle parked, "no"-no vehicle parked*/
    }]
   }],
   "PicResources": {
/*dependent, resource transmission module, when the alarm message contains additional resources (such as picture),
this node must be returned*/
    "resourcesContentType": "",
/*dependent, string, resource transmission type: "url"-picture URL, "binary"-picture binary data, "base64"-picture
encoded by Base64; when the alarm message contains additional resources (such as picture), this node must be
```

```
returned*/
    "resourcesContent": "",

/*dependent, string, resource ID, when the alarm message contains additional resources (such as picture), this node must be returned; when the value of resourcesContentType is "binary", this node corresponds to the picture Content-ID; when the value of resourcesContentType is "url", this node should be set as a URLI*/
    }
}

}
```

7.15 JSON PersonInfo

JSON message a person's information

```
"PersonInfo":{
  "id":"",
/*required, string, user No.*/
  "name":"",
/*required, string, user name*/
  "password":"",
/*optional, string, user password, which should be encrypted and it will not be returned*/
  "filePermission":,
/*required, boolean, whether to assign file search permission*/
  "mobile":
/*optional, string, user contacts*/
  "filePermissionsuper":,
/*required, boolean, whether it has the permission of super administrator*/
/*required, boolean, whether the face data is collected by this person, it is read-only*/
  "deviceId":""
/*optional, string, body camera ID*/
}
```

7.16 JSON_PersonInfoList

JSON message about person information list

```
{
    "PersonInfoList":[{
        "PersonInfo":{
            "id":"",
            /*required, string, user No.*/
            "name":"",
            /*required, string, user name*/
            "password":"",
            /*optional, string, user password, which should be encrypted and it will not be returned*/
            "filePermission": ,
```

```
/*required, boolean, whether to assign file search permission*/
   "mobile":

/*optional, string, user contacts*/
   "filePermissionsuper": ,

/*required, boolean, whether it has the permission of super administrator*/
   "collectStatus":

/*required, boolean, whether the face data is collected by this person, it is read-only*/
   "deviceId":""

/*optional, string, body camera ID*/
   }

}
```

7.17 JSON_PriorityCollection

JSON message about collection priority parameters

```
{
    "PriorityCollection":{
        "slotID": ,
    /*required, int, storage bin ID*/
        "enable":
    /*required, boolean, whether to enable the priority collection of this storage bin*/
    }
}
```

7.18 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": "0xFFFFFFF",
/*optional, string, error code categorized by functional modules*/
 "MErrDevSelfEx": "0xFFFFFFF"
/*optional, string, extension of MErrCode. It is used to define the custom error code, which is categorized by
```

```
functional modules*/
}
```

7.19 JSON_Schedule

JSON message about schedule parameters of uploading files to platform

```
"Schedule":{
  "enabled":,
/*required, boolean, whether to enable uploading schedule settings*/
  "TimeBlockList":[{
/*optional, only the first group of TimeRange will be used, and the time is only accurate to minute*/
   "TimeBlock":{
    "dayOfWeek":,
/*required, int, days of the week: 1-Monday, 2-Tuesday, 3-Wednesday, 4-Thursday, 5-Friday, 6-Saturday, 7-Sunday*/
    "TimeRange":{
     "beginTime":""
/*required, string, start time of a time period, e.g., "08:30:00"*/
     "endTime":""
/*required, string, end time of a time period, e.g., "10:30:00"*/
  }
 }]
}
```

7.20 JSON_ScheduleCap

JSON message about schedule configuration capability of uploading files to platform

Remarks

Setting different time periods for each day in a week is not supported; if different time periods are configured for each day, only the first group of **TimeRange** will be used, and the time is only accurate to minute.

7.21 JSON_UserInfo

JSON message about information of storage bin to be controlled

```
{
  "UserInfo":{
    "peopleNo":"",
    /*required, string, person No.*/
    "deviceNo":"",
    /*required, string, device No.*/
    "id":""
    /*required, string, storage bin ID*/
  }
}
```

7.22 XML_Cap_CloudStorage

XML message about access capability of cloud storage

```
<CloudStorage version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<id><!--required, xs:string--></id>
<enabled><!--required, xs:boolean--></enabled>
 <addressingFormatType opt="ipaddress,hostname"><!--required, xs:string, address type: "ipaddress", "hostname"--
></addressingFormatType>
<hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is</pre>
"hostname"--></hostName>
<ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipAddress>
 <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
 <port min="" max=""><!--required, xs:integer, port No.--></port>
 <username><!--dependent, xs:string, user name--></username>
 <password><!--dependent, xs:string, password--></password>
 <postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
 <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
 <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
```

```
<cloudStorageType opt="0,1,2"><!--optional, xs:integer, 0-cloud storage (default), 1-CVR, 2-pcnvr2.0; if this node is
empty, it is the cloud storage by default--></cloudStorageType>
 <V2.0>
  <enabled><!--required, xs:integer, whether to enable--></enabled>
  <addressingFormatType opt="ipaddress,hostname"><!--required, xs:string, address type: "ipaddress,hostname"--></
addressingFormatType>
  <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
  <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipAddress>
  <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
  <port min="" max=""><!--required, xs:integer, port No.--></port>
  <isSupportAccessKey><!--optional, xs:boolean, whether it supports access key configuration; AccessKey is the cloud
storage access key generated by cloud storage management system, and it corresponds to the resource pool user,--></
isSupportAccessKey>
  <isSupportSecretKey><!--optional, xs:boolean, whether it supports secret key configuration; SecretKey is the cloud
storage protocol encryption key generated by cloud storage management system, and it corresponds to the resource
pool user--></isSupportSecretKey>
  <postPoolID min="0" max="4294967295"><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
  <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
  <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
  <accessKeyLen min="1" max="64"><!--dependent, access key length, it is valid only when the value of
isSupportAccessKey "true"--></accessKeyLen>
  <secretKeyLen min="1" max="64"><!--dependent, secret key length, it is valid only when the value of</p>
isSupportSecretKey "true"--></secretKeyLen>
  <resourceID min="0" max="32"><!--optional, xs:string, resource pool ID--></resourceID>
 </V2.0>
 <ImageAndVideoCloud>
  <enabled> <!--required, xs:boolean, whether to enable--> </enabled>
  <addressingFormatType opt="ipaddress,hostname"><!--required, xs:string, address type: "ipaddress", "hostname"--
></addressingFormatType>
  <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
  <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is
"ipaddress"--></ipAddress>
  <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
  <isSupportAccessKey><!--optional, xs:boolean, whether it supports access key configuration; AccessKey is the cloud
storage access key generated by cloud storage management system, and it corresponds to the resource pool user,--></
isSupportAccessKey>
  <isSupportSecretKey><!--optional, xs:boolean, whether it supports secret key configuration; SecretKey is the cloud
storage protocol encryption key generated by cloud storage management system, and it corresponds to the resource
pool user--></isSupportSecretKey>
  <postPoolID min="0" max="4294967295"><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
  <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
  <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
  <accessKeyLen min="1" max="64"><!--dependent, access key length, it is valid only when the value of
isSupportAccessKey "true"--></accessKeyLen>
  <secretKeyLen min="1" max="64"><!--dependent, secret key length, it is valid only when the value of</p>
isSupportSecretKey "true"--></secretKeyLen>
 /ImageAndVideoCloud>
```

7.23 XML_Cap_DeviceInfo

MXL message about capability of device information

```
<DeviceInfo version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <deviceName min="" max=""><!--required, xs:string, device name--></deviceName>
 <DockStation>
  <!--optional, dock station configuration-->
  <Platform>
   <!--optional, platform configuration-->
   <type opt="none, 9533, 8618, ISAPI"><!--required, xs:string, platform type--></type>
   <ip><!--optional, xs:string, IP address --></ip>
   <port><!--optional, xs:integer, communication port--></port>
   <userName><!--required, xs:string, user name, which is used for the dock station to log in to platform--></
userName>
   <password><!--required, xs:string, password, which is used for the dock station to log in to platform, it should be</pre>
encrypted--></password>
  </Platform>
  <centralStorageBackupEnabled opt="true, false"><!--optional, xs:boolean, whether to enable central storage</p>
backup--></centralStorageBackupEnabled>
 </DockStation>
 <languageType
opt="chinese,english,spanish,portuguese,italian,french,russian,german,polish,turkish,greek,czech,brazilianPortuguese,
slovenian,swedish,norwegian,slovak,serbian,dutch,hungarian,irish,bulgarian,hebrew"/><!--optional, xs:string-->
 <deviceID min="0" max="128"><!--read-only, required, xs:string, uuid--></deviceID>
 <deviceDescription min="0" max="16"><!--optional, xs:string--></deviceDescription>
 <deviceLocation opt="STD-CGI, hangzhou"><!--optional, xs:string--></deviceLocation>
 <systemContact opt="STD-CGI"><!--optional, required, xs:string--></systemContact>
 <model min="0" max="64"><!--read-only, required, xs:string--></model>
 <serialNumber min="0" max="48"><!--read-only, required, xs:string--></serialNumber>
 <macAddress min="0" max="64"><!--read-only, required, xs:string--></macAddress>
 <firmwareVersion min="0" max="64"><!--read-only, required, xs:string--></firmwareVersion>
 <firmwareReleasedDate min="0" max="64"><!--read-only, optional, xs:string--></firmwareReleasedDate>
 <bootVersion min="0" max="16"><!--read-only, optional, xs:string--></bootVersion>
 <bootReleasedDate min="0" max="16"><!--read-only, optional, xs:string--></bootReleasedDate>
 <hardwareVersion min="0" max="16"><!--read-only, optional, xs:string--></hardwareVersion>
 <encoderVersion min="0" max="64"><!--read-only, optional, xs:string--></encoderVersion>
 <encoderReleasedDate min="0" max="64"><!--read-only, optional, xs:stirng--></encoderReleasedDate>
 <decoderVersion min="0" max="64"><!--read-only, optional, xs:string--></decoderVersion>
 <decoderReleasedDate min="0" max="64"><!--read-only, optional, xs:stirng--></decoderReleasedDate>
 <deviceType opt="IPCamera, IPDome, DVR, HybirdNVR, NVR, DVS, IPZoom"><!--read-only, required, xs:string--></
deviceType>
 <telecontrolID min="1" max="255"><!--optional, xs:integer, "1-255"--></telecontrolID>
```

```
<supportBeep><!--optional, xs:boolean: "true,false"--></supportBeep>
 <firmwareVersionInfo><!--read-only, optional, xs:stirng--></firmwareVersionInfo>
 <subChannelEnabled><!--optional, xs:boolean: "true,false"--></subChannelEnabled>
 <thrChannelEnabled><!--optional, xs:boolean: "true,false"--></thrChannelEnabled>
 <actualFloorNum><!--required, xs:integer, "1-128"--></actualFloorNum>
 <radarVersion><!--optional, xs:string, radar version--></radarVersion>
 <powerOnMode opt="button,adapter" def="button"><!--optional, xs:string, device startup mode: "button"-press</p>
button to power on (default), "adapter"-connect adapter to power on--></powerOnMode>
 <webVersion><!--optional, read-only, xs:string, web version No., it is the current value by default--></webVersion>
 <deviceRFProgramVersion><!--optional, read-only, xs:string, version No. of the device's RF (Radio Frequency)</pre>
program, it is the current value by default--></deviceRFProgramVersion>
 <securityModuleSerialNo><!--optional, read-only, xs:string, serial No. of the security module, it is the current value
by default--></securityModuleSerialNo>
 <securityModuleVersion><!--optional, read-only, xs:string, version No. of the security module, it is the current value</p>
by default--></securityModuleVersion>
 <securityChipVersion><!--optional, read-only, xs:string, version No. of the security chip, it is the current value by
default--></securityChipVersion>
 <securityModuleKeyVersion><!--optional, read-only, xs:string, version No. of the security module key, it is the current</p>
value by default--></securityModuleKeyVersion>
 <UIDLampRecognition><!--optional, information of the UID lamp recognition device-->
  <enabled opt="true,false"><!--optional, xs:boolean, whether to enable--></enabled>
 </UIDLampRecognition>
 <bootTime><!--optional, xs:string, read-only, system boot time, ISO 8601 format; the maximum length is 32 bytes--
></bootTime>
 <isSupportNewVersionDevlanguageSwitch><!--optional, xs:boolean, whether it supports switching language by new
version of the protocol, related URI: /ISAPI/System/DeviceLanguage/capabilities. If the device does not return this
node, it does not indicate that the device does not support switching language by new version of the protocol, and
whether the device supports this function is determined by the obtained capability--></
isSupportNewVersionDevlanguageSwitch>
 <ZigBeeVersion min="0",max="16"><!--optional, xs:string, ZigBee module version--></firmwareVersion>
 <R3Version min="0",max="16"><!--optional, xs:string, R3 module version--></R3Version>
 <RxVersion min="0",max="16"><!--optional, xs:string, Rx module version--></RxVersion>
 <isResetDeviceLanguage opt="true,false">
  <!--optional, boolean, whether it supports switching the device language on the HikConnect and the Portal after the
security control panel is upgraded-->false
 </isResetDeviceLanguage>
 <bspVersion min="1" max="1"><!--optional, xs:string, BSP software version, read-only--></bspVersion>
 <dspVersion min="1" max="1"><!--optional, xs:string, DSP software version, read-only--></dspVersion>
 <localUIVersion min="1" max="1"><!--optional, xs:string, local UI version, read-only--></localUIVersion>
</DeviceInfo>
```

7.24 XML_Cap_HVTVehicleDetectCfg

Capability message about mixed traffic detection in XML format

```
<?xml version="1.0" encoding="utf-8"?>
<HVTVehicleDetectCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
   <enabled><!--required, xs:boolean--></enabled>
   <stateOrProvinceName opt=""><!--optional, xs:string--></stateOrProvinceName>
   <HVTVehicleDetectSceneList size="5">
```

```
<HVTVehicleDetectScene><!--list-->
   <id><!--required, xs:integer--></id>
   <sceneName min="" max=""><!--optional, xs:string--></sceneName>
   <enabled><!--required, xs:boolean--></enabled>
   <PlateRecogParam>
    <PlateRecogRegionList size="5">
     <PlateRecogRegion><!--list-->
       <id><!--required, xs:string--></id>
       <RegionCoordinatesList size="5">
        <RegionCoordinates><!--list-->
         <positionX><!--required, xs:integer, X-coordinate--></positionX>
         <positionY><!--required, xs:integer, Y-coordinate--></positionY>
        </RegionCoordinates>
       </RegionCoordinatesList>
     </PlateRecogRegion>
    </PlateRecogRegionList>
   </PlateRecogParam>
   <LaneConfig>
    <LaneList size="5">
     <Lane><!--list-->
       <laneId min="" max=""><!--required, xs:integer--></laneId>
       <RegionCoordinatesList size="5"><!--required-->
        <RegionCoordinates><!--list-->
         <positionX><!--required, xs:integer--></positionX>
         <positionY><!--required, xs:integer--></positionY>
        </RegionCoordinates>
       </RegionCoordinatesList>

</p
boundary line, "laneLine"-lane line--></lineType>
       <carDriveDirect opt="unknow,up_to_down,down_to_up"><!--optional, xs:string, vehicle driving direction--></
carDriveDirect>
     </Lane>
    </LaneList>
   </LaneConfig>
  </HVTVehicleDetectScene>
 </HVTVehicleDetectSceneList>
 <AtRoadsideCalib><!--optional. -->
  <RegionCoordinatesList size="5">
   <RegionCoordinates><!--list-->
    <positionX><!--required, xs:integer, X-coordinate--></positionX>
    <positionY><!--required, xs:integer, Y-coordinate--></positionY>
   </RegionCoordinates>
  </RegionCoordinatesList>
 </AtRoadsideCalib>
 <AboveRoadCalib><!--optional-->
  <RegionCoordinatesList>
   <RegionCoordinates><!--required, list-->
    <positionX><!--required, xs:integer, X-coordinate--></positionX>
    <positionY><!--required, xs:integer, Y-coordinate--></positionY>
   </RegionCoordinates>
  </RegionCoordinatesList>
 </AboveRoadCalib>
```

```
<nation opt="EU,ER,EUandCIS,ME,AII"><!--optional, xs:string, region, "ER"-CIS Region, "EU"-Europe Region, "ME"-
Middle East, "All"-All Region--></nation>
 <countryIndex opt="1,2,3,4,5,6,7,8,12,14,17,18,19,20,23,39,44,55"><!--optional, xs:integer, country/region No.-->
countryIndex>
 <!--compatibility between countryIndex and CRIndex-->
<!--device: both fields will be returned, when the value of CRINDEN is smaller than or equal to 255, the value of
countryIndex is the same as that of CRIndex; when the value of CRIndex is larger than 255, the value of countryIndex
is 253 (the field countryIndex is invalid)-->
<!--integration flow: for new users, CRIndex has higher priority over countryIndex and the field countryIndex is used
only when countryIndex does not exist; when the value of countryIndex is 253, additional logic processing should be
adopted to use CRIndex field-->
<CRIndex
44,45,46,47,49,51,53,55,59,60,62,65,68,70,71,72,73,76,77,84,87,89,90,94,95,91,104,107,108,110,114,115,130,137,13
9,140,144,145,146,151,156,157,169,174,175,177,180,181,188,206,210,215,216,217,218,219,220,221,222,227,228,25
6">
  <!--optional, xs:integer, country/region No., when the value is 0, it indicates that no country/region is specified-->
 </CRIndex>
 <RelatedNationAndCRListCap>
  <!--optional, xs:array of object, ro, the capability of relating a region and a country. Relating a region and a country
to display them on the interface-->
  <RelatedNationAndCR>
   <!--optional, xs:object, ro, relate a region and a country-->
   <nation><!--optional, xs:string, ro, region: "AfricaAndAmerica"- Africa and America, "AP"- the Asia-Pacific, "All"-All
regions, "ER"-the Russian region, "EU"-the Europe, "EUandCIS"-the EU & CIS, "ME"-the Middle East-->EU</nation>
   <CRIndex opt="1,2,3,4,5,6,7"><!--optional, xs:integer, ro, country/region index-->1</CRIndex>
  </RelatedNationAndCR>
 </RelatedNationAndCRListCap>
</HVTVehicleDetectCfg>
```

7.25 XML_Cap_ImageMerge

XML message about picture composition configuration capability

```
<ImageMerge version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<isMerge opt="0,1">
 <!--required, xs:integer, whether to composite pictures-->
</isMerge>
<twoMergeType opt="201,202">
 <!--required, xs:integer, composite with two pictures-->
</twoMergeType>
<threeMergeType opt="301,302">
 <!--required, xs:integer, composite with three pictures-->
 </threeMergeType>
 <fourMergeType opt="401,402,403,404">
 <!--required, xs:integer, composite with four pictures-->
 </fourMergeType>
 <fiveMergeType opt="501,502">
 <!--required, xs:integer, composite with five pictures-->
 </fiveMergeType>
```

```
<sixMergeType opt="601,602">
   <!--required, xs:integer, composite with six pictures-->
  </sixMergeType>
  <jepgEffectType opt = "quality,maxSize">
   <!--required, xs:string, picture quality type-->
  </iepgEffectType>
 <jpegQuality min="" max="">
   <!--dependent, xs:integer, picture quality, ranges from 20 to 95, the default value is 50-->
 </jpegQuality>
 <mergeMaxSize min="" max="">
   <!--dependent, xs:integer, reserved-->
 </mergeMaxSize>
 <featureIndex min="" max="">
    <!--optional, xs:integer, 0-close-up picture is not required, 1-get the first close-up picture, 2-get the second close-up
picture, 3-get the third close-up picture-->
 </featureIndex>
 <closeupIndex min="0" max="5"><!--dependent, xs: integer, close-up picture No., which is between 0 and 5--></
closeupIndex>
 <closeupScale min="0" max="100"><!--dependent, xs: integer, close-up scale level, which is between 0 and 100--></
closeupScale>
 <positionOffset min="50" max="2047"><!--dependent, xs: integer, position offset, which is between 50 and 2047-->
positionOffset>
 <maxMergedPicSize min="" max=""><!--dependent, xs: integer, maximum size of composite picture value range</pre>
[200,4096], unit: KB--></maxMergedPicSize>
 <orignalPicScale min="" max=""><!--dependent, xs: integer, zooming rate of original picture: 0, 1, 2, 3, 4-->//
orignalPicScale>
 <featureScale opt=""><!--dependent, xs:integer, 2-close-up thumbnail, 4-close-up picture, this node is valid when the
monitoring point is a terminal--></featureScale>
 <copyVehicle1302 min="" max="">
   <!--dependent, xs: integer, 0-not copy, 1,2,3-copy the first, second, or third picture, this node is valid when the
monitoring point is a terminal-->
 </copyVehicle1302>
 <copyVehicleOther min="" max="">
   <!--dependent, xs: integer, 0-not copy, 1,2,3-copy the first, second, or third picture, this node is valid when the
monitoring point is a terminal-->
 </copyVehicleOther>
 <featureStrategy min="" max="">
   <!--dependent, xs: integer, strategy for getting close-up picture: 0-coordinates of license plate is in priority (default),
1-force the ANPR area-->
 </featureStrategy>
 <plain < place < place
   <!--dependent, xs: integer, y-coordinate offset of center point of license plate, unit: pixel, the default value is 0, and
the value range is [-500,500], upward offset: positive, downward offset: negative-->
 </place/Offset>
 <recYOffset min="" max="">
    <!--dependent, xs: integer, y-coordinate offset of center point of ANPR area, unit: pixel, the default value is 0, and
the value range is [-500,500], upward offset: positive, downward offset: negative-->
 </recYOffset>
 <jpegResolutionWidth opt="1920,1280,704,2560,3840" def="2560">
   <!--required, xs:integer, width of picture resolution-->
 </ipegResolutionWidth>
 <jpegResolutionHeight opt="1080,720,576,1440,2160" def="1440">
```

```
<!--required, xs:integer, height of picture resolution-->
 </ipegResolutionWidth>
 <PictureAddIntInfo>
  <!--optional, overlay information on alarm picture-->
  <isAddTargetInfo>
   <!--optional, xs:integer, whether to overlay target information on alarm picture: 0-no (default), 1-yes-->
  </isAddTargetInfo>
  <isAddRuleInfo>
   <!--optional, xs:integer, whether to overlay rule information on alarm picture: 0-no (default), 1-yes-->
  </isAddIntInfo>
  <isAddTrackingInfo opt="true,false">
   <!--optional, xs:boolean, whether to overlay pattern information on alarm picture: 0-no (default), 1-yes-->
  </isAddTrackingInfo>
 </PictureAddIntInfo>
 <ProspectmapInfo>
  <!--optional, overlay information on distant view picture-->
  <isAddTargetInfo>
   <!--optional, xs:integer, whether to overlay target information on video: 0-no (default), 1-yes-->
  </isAddIntInfo>
  <isAddRuleInfo>
   <!--optional, xs:integer, whether to overlay rule information on video: 0-no (default), 1-yes-->
  </isAddIntInfo>
  <isAddTrackingInfo opt="true,false">
   <!--optional, xs:boolean, whether to overlay pattern information on alarm picture: 0-no (default), 1-yes-->
  </isAddTrackingInfo>
</ProspectmapInfo>
<isVehicleMonitorOverlay opt="true,false"><!--optional, xs:boolean, Whether to enable OSD string overlay for
vehicle arming--></isVehicleMonitorOverlay>
</lmageMerge>
```

7.26 XML_Cap_VehicleDetectCfg

Vehicle detection capability message in XML format

```
<VehicleDetectCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<enabled><!--required, xs:boolean--></enabled>
<nation opt="EU,ER,EUandCIS,ME"><!--optional, xs:string, country and region, "ER"-CIS Region, "EU"-Europe Region,</pre>
"ME"-Middle East, "AP"-Asia Pacific, "AfricaAndAmerica"-Africa and America, "All"-All Region--></nation>
<stateOrProvince opt=""><!--optional, xs:string--></stateOrProvince>
 <VehicleDetectSceneList size="">
  <VehicleDetectScene><!--list-->
   <id><!--required, xs:integer--></id>
   <sceneName min="" max=""><!--optional, xs:string--></sceneName>
   <enabled><!--required, xs:boolean--></enabled>
   <PlateRecogParam>
    <PlateRecogRegionList size="">
     <PlateRecogRegion>
      <id><!--required, xs:string--></id>
      <RegionCoordinatesList size="">
       <RegionCoordinates> <!--required-->
```

```
<positionX><!--required, xs:integer, X-coordinate--></positionX>
        <positionY><!--required, xs:integer, Y-coordinate--></positionY>
       </RegionCoordinates>
      </RegionCoordinatesList>
     </PlateRecogRegion>
    </PlateRecogRegionList>
   </PlateRecogParam>
   <LaneConfig>
    <LaneList size="4">
     <Lane>
      <laneId min="1" max="4"><!--required, xs:integer--></laneId>
      <RegionCoordinatesList size=""><!--list, required-->
       <RegionCoordinates><!--minoccurs=2, maxoccurs=2-->
        <positionX><!--required, xs:integer--></positionX>
        <positionY><!--required, xs:integer--></positionY>
       </RegionCoordinates>
      </RegionCoordinatesList>

<!--optional, xs:string, lane line type: "laneBoundaryLine,laneLine" ><!--optional, xs:string, lane line type: "laneBoundaryLine"-lane</p>
border line, "laneLine"-lane line--></lineType>
      <carDriveDirect opt="unknow,up_to_down,down_to_up">
       <!--optional, xs:string, vehicle driving direction: "unknow"-unknown, "up_to_down"-from top to bottom,
"down to up"-from bottom to top-->
      </carDriveDirect>
     </Lane>
    </LaneList>
   </LaneConfig>
  </VehicleDetectScene>
 </VehicleDetectSceneList>
 <PlateDetectionRegion>
  <PlateSize>
   <minWidth min="" max=""><!--optional, xs:integer--></minWidth>
   <maxWidth min="" max=""><!--optional, xs:integer--></maxWidth>
  </PlateSize>
  <plateMode opt="small,large"><!--optional, xs:string, license plate mode--></plateMode>
 </PlateDetectionRegion>
 <RodeType><!--optional-->
  <type opt="entrance,city,custom,alarmInput"><!--optional, xs:string--></type>
  <Custom><!--dependent, custom-->
   <delayTime min="" max=""><!--optional, xs:integer, [0,15000]--></delayTime>
   <delayTimeUnit opt="ms"><!--optional, xs:string, unit: ms--></delayTimeUnit>
  </Custom>
 </RodeType>
 <AtRoadsideCalib><!--optional-->
  <RegionCoordinatesList size="">
  <RegionCoordinates><!--required-->
   <positionX><!--required, xs:integer, X-coordinate --></positionX>
   <positionY><!--required, xs:integer, Y-coordinate --></positionY>
  </RegionCoordinates>
  <RegionCoordinatesList>
 </AtRoadsideCalib>
 <countryIndex opt="1,2,3,4,5,6,7,8,12,14,17,18,19,20,23,39,44,55"><!--optional, xs:integer, country/region No.-->
countryIndex>
```

```
<supportCountryIndex opt="1,2,3,4,5,6,7,8,11,12,14,17,18,19,20,21,23,39,44,46,55,73"><!--optional, xs:integer,</pre>
country/region No.--></supportCountryIndex>
 <!--compatibility between countryIndex and CRIndex-->
 <!--device: both fields will be returned, when the value of CRIndex is smaller than or equal to 255, the value of
countryIndex is the same as that of CRIndex; when the value of CRIndex is larger than 255, the value of countryIndex
is 253 (the field countryIndex is invalid)-->
 <!--integration flow: for new users, CRIndex has higher priority over countryIndex and the field countryIndex is used
only when countryIndex does not exist; when the value of countryIndex is 253, additional logic processing should be
adopted to use CRIndex field-->
 <CRIndex
44,45,46,47,49,51,53,55,59,60,62,65,68,70,71,72,73,76,77,84,87,89,90,94,95,91,104,107,108,110,114,115,130,137,13
9,140,144,145,146,151,156,157,169,174,175,177,180,181,188,206,210,215,216,217,218,219,220,221,222,227,228,25
6">
  <!--optional, xs:integer, country/region No., when the value is 0, it indicates that no country/region is specified-->
 </CRIndex>
 <RelatedNationAndCRListCap>
  <!--optional, xs:array of object, ro, the capability of relating a region and a country. Relating a region and a country
to display them on the interface-->
  <RelatedNationAndCR>
   <!--optional, xs:object, ro, relate a region and a country-->
   <nation><!--optional, xs:string, ro, region: "AfricaAndAmerica"- Africa and America, "AP"- the Asia-Pacific, "All"-All
regions, "ER"-the Russian region, "EU"-the Europe, "EUandCIS"-the EU & CIS, "ME"-the Middle East-->EU</nation>
   <CRIndex opt="1,2,3,4,5,6,7"><!--optional, xs:integer, ro, country/region index-->1</CRIndex>
  </RelatedNationAndCR>
 </RelatedNationAndCRListCap>
</VehicleDetectCfg>
```

7.27 XML_CloudStorage

XML message about access parameters of cloud storage

```
<CloudStorage version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<id><!--required, xs:string--></id>
<enabled><!--required, xs:boolean--></enabled>
<addressingFormatType><!--required, xs:string, address type: "ipaddress", "hostname"--></addressingFormatType>
 <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
<ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipAddress>
<ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
<port><!--required, xs:integer, port No.--></port>
<username><!--dependent, xs:string, user name--></username>
<password><!--dependent, xs:string, password--></password>
<postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
<illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
<vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
< !--required, xs:string, cloud storage protocol type: "V1.0", "V2.0", "Image and Video Cloud"-->
protocolType>
```

```
<cloudStorageType><!--optional, xs:integer, 0-cloud storage (default), 1-CVR, 2-pcnvr2.0; if this node is empty, it is
the cloud storage by default--></cloudStorageType>
 <V2.0><!--required, this node in valid only when the vaule of protocolType is V2.0-->
  <enabled><!--required, xs:integer, whether to enable--></enabled>
  <addressingFormatType><!--required, xs:string, address type: "ipaddress,hostname"--></addressingFormatType>
  <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
  <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipAddress>
  <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
  <port><!--required, xs:integer, port No.--></port>
  <accessKeyLen><!--dependent, access key length, it is valid only when the value of isSupportAccessKey "true"--></
accessKeyLen>
  <secretKeyLen><!--dependent, secret key length, it is valid only when the value of isSupportSecretKey "true"-->
secretKeyLen>
  <postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
  <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
  <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
  <resourceID><!--optional, xs:string, resource pool ID--></resourceID>
 </V2.0>
 <ImageAndVideoCloud>
  <enabled> <!--required, xs:boolean, whether to enable--> </enabled>
  <addressingFormatType opt="ipaddress,hostname"><!--required, xs:string, address type: "ipaddress", "hostname"--
></addressingFormatType>
  <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is</pre>
"hostname"--></hostName>
  <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is
"ipaddress"--></ipAddress>
  <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
  <port><!--required, xs:integer, port No.--></port>
  <accessKeyLen><!--dependent, access key length, it is valid only when the value of isSupportAccessKey "true"--></
accessKeyLen>
  <secretKeyLen><!--dependent, secret key length, it is valid only when the value of isSupportSecretKey "true"--></
secretKeyLen>
  <postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
  <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
  <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
 /ImageAndVideoCloud>
 <bucketName><!--optional, xs:string, bucket name of cloud storage --></bucketName>
</CloudStorage>
```

7.28 XML_CloudStorageTestResult

XML message about cloud storage test result

```
<CloudStorageTestResult version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<errorDescription><!--req,xs:string--></errorDescription>
</CloudStorageTestResult>
```

7.29 XML_CloudStorageTestDescription

XML message about cloud storage test

```
<?xml version="1.0" encoding="utf-8"?>
<CloudStorageTestDescription version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <addressingFormatType><!--required, xs:string, address type: "ipaddress", "hostname"--></addressingFormatType>
 <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
 <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipAddress>
 <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
 <port><!--required, xs:integer, port No.--></port>
 <username><!--dependent, xs:string, user name--></username>
 <password><!--dependent, xs:string, password--></password>
 <postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
 <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
 <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
 <!--required, xs:string, cloud storage protocol type: "V1.0", "V2.0", "Image and Video Cloud"-->
protocolType>
 <cloudStorageType><!--optional, xs:integer, 0-cloud storage (default), 1-CVR, 2-pcnvr2.0; if this node is empty, it is
the cloud storage by default--></cloudStorageType>
 <V2.0><!--dependent, it is valid when <protocolType> is "V2.0"-->
  <addressingFormatType><!--required, xs:string, address type: "ipaddress,hostname"--></addressingFormatType>
  <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
  <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is
"ipaddress"--></ipAddress>
  <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
  <port><!--required, xs:integer, port No.--></port>
  <accessKeyLen><!--dependent, access key length, it is valid only when the value of isSupportAccessKey "true"--></
accessKeyLen>
  <secretKeyLen><!--dependent, secret key length, it is valid only when the value of isSupportSecretKey "true"-->
secretKeyLen>
  <postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
  <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
  <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool--></vehicleDetectionID>
 </V2.0>
 <ImageAndVideoCloud>
  <enabled> <!--required, xs:boolean, whether to enable--> </enabled>
  <addressingFormatType opt="ipaddress,hostname"><!--required, xs:string, address type: "ipaddress", "hostname"--
></addressingFormatType>
  <hostName><!--dependent, xs:string, host name, it is valid only when the value of addressingFormatType is
"hostname"--></hostName>
  <ipAddress><!--dependent, xs:string, IPv4 address, it is valid only when the value of addressingFormatType is
"ipaddress"--></ipAddress>
  <ipv6Address><!--dependent, xs:string, IPv6 address, it is valid only when the value of addressingFormatType is</pre>
"ipaddress"--></ipv6Address>
  <port><!--required, xs:integer, port No.--></port>
```

```
<accessKeyLen><!--dependent, access key length, it is valid only when the value of isSupportAccessKey "true"--></
accessKeyLen>
  <secretKeyLen><!--dependent, secret key length, it is valid only when the value of isSupportSecretKey "true"--></
secretKeyLen>
  <postPoolID><!--optional, xs:integer, checkpoint picture pool ID--></postPoolID>
  <illegalPoolID><!--optional, xs:integer, violation picture pool ID--></illegalPoolID>
  <vehicleDetectionID><!--optional, xs:integer, ID of vehicle detection picture pool---></vehicleDetectionID>
```

7.30 XML_Desc_ITDeviceAbility

Input description message for getting intelligent traffic capability.

Remarks

Refer to the message XML ITDeviceAbility of for the intelligent traffic capability details.

7.31 XML_DeviceInfo

XML message about device information

```
<?xml version="1.0" encoding="utf-8"?>
<DeviceInfo version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<deviceName><!--required, xs:string--></deviceName>
<deviceID><!--required, read-only, xs:string, uuid--></deviceID>
<deviceDescription>
  <!--optional, xs:string, description about the device defined in RFC1213. For network camera, this node is set to
"IPCamera"; for network speed dome, this node is set to "IPDome"; for DVR or DVS, this node is set to "DVR" or
"DVS"-->
</deviceDescription>
<deviceLocation><!--optional, xs:string, actual location of the device--></deviceLocation>
<deviceStatus><!--optional, read-only, xs:string, device status: "normal", "abnormal"--></deviceStatus>
 <DetailAbnormalStatus>
  <!--dependent, error status details, it is valid only when deviceStatus is "abnormal"-->
  <hardDiskFull>
   <!--optional, read-only, xs: boolean, whether the error of "HDD full" occurred: "true"-yes, "false"-no-->
  </hardDiskFull>
  <hardDiskError>
  <!--optional, read-only, xs:boolean, whether the error of "HDD error" occurred: "true"-yes, "false"-no-->
  </hardDiskError>
```

```
<ethernetBroken>
   <!--optional, read-only, xs: boolean, whether the error of "network disconnected" occurred: "true"-yes, "false"-no--
  </ethernetBroken>
  <ipaddrConflict>
   <!--optional, read-only, xs: boolean, whether the error of "IP address conflicted" occurred: "true"-yes, "false"-no-->
  </ipaddrConflict>
  <illegalAccess>
   <!--optional, read-only, xs: boolean, whether the error of "illegal login" occurred: "true"-yes, "false"-no-->
  </illegalAccess>
  <recordError>
   <!--optional, read-only, xs: boolean, whether the error of "recording exception" occurred: "true"-yes, "false"-no-->
  </recordError>
  <raidLogicDiskError>
   <!--optional, read-only, xs: boolean, whether the error of "RAID exception" occurred: "true"-yes, "false"-no-->
  </raidLogicDiskError>
  <spareWorkDeviceError>
   <!--optional, read-only, xs: boolean, whether the error of "working device exception" occurred: "true"-yes, "false"-
no-->
  </spareWorkDeviceError>
 </DetailAbnormalStatus>
 <systemContact><!--optional, xs:string, contact information of the device--></systemContact>
 <model><!--required, read-only, xs:string--></model>
 <serialNumber><!--required, read-only, xs:string--></serialNumber>
 <macAddress><!--required, read-only, xs:string--></macAddress>
 <firmwareVersion><!--required, read-only, xs:string--></firmwareVersion>
 <firmwareReleasedDate><!--optional, read-only, xs:string--></firmwareReleasedDate>
 <bootVersion><!--optional, read-only, xs:string--></bootVersion>
 <bootReleasedDate><!--optional, read-only, xs:string-->/bootReleasedDate>
 <hardwareVersion><!--optional, read-only, xs:string--></hardwareVersion>
 <encoderVersion><!--optional, read-only, xs:string--></encoderVersion>
 <encoderReleasedDate><!--optional, read-only, xs:stirng--></encoderReleasedDate>
 <decoderVersion><!--optional, read-only, xs:string--></decoderVersion>
 <decoderReleasedDate><!--optional, read-only, xs:stirng--></decoderReleasedDate>
 <softwareVersion><!--optional, read-only, xs:string, software version--></softwareVersion>
 <capacity><!--optional, read-only, xs:integer, unit: MB, device capacity--></capacity>
 <usedCapacity><!--optional, read-only, xs:integer, unit: MB, capacity usage--></usedCapacity>
 <deviceType>
  <!--required, read-only, xs:string, device type: "IPCamera", "IPDome", "DVR", "HybirdNVR", "NVR", "DVS", "IPZoom",
"CVR", "Radar", "PerimeterRadar"-perimeter radar, "ACS", "PHA"-Axiom hybrid security control panel-->
 </deviceType>
 <telecontrolID><!--optional, xs:integer, keyfob control ID, the value is between 1 and 255--></telecontrolID>
 <supportBeep><!--optional, xs:boolean--></supportBeep>
 <supportVideoLoss><!--optional, xs:boolean, whether it supports video loss detection--></supportVideoLoss>
 <firmwareVersionInfo><!--optional, read-only, xs:string, firmware version information--></firmwareVersionInfo>
 <actualFloorNum>
  <!--required, xs: integer, actual number of floors, which is between 1 and 128-->
 </actualFloorNum>
 <subChannelEnabled><!--optional, xs:boolean, whether to support sub-stream live view: "true"-yes, "false"-no--></
subChannelEnabled>
 <thrChannelEnabled><!--optional, xs:boolean, whether to support third stream live view: "true"-yes, "false"-no--></
thrChannelEnabled>
```

```
<radarVersion><!--optional, xs:string, radar version--></radarVersion>
 <cameraModuleVersion><!--read-only, xs:string, camera module version--></cameraModuleVersion>
 <mainversion><!--optional, xs:integer, main version No. which is between 1 and 255--></mainversion>
 <subversion><!--optional, xs:integer, sub version No. which is between 1 and 255--></subversion>
 <up><upgradeversion><!--optional, xs:integer, upgraded version No. which is between 1 and 255--></upgradeversion>
 <customizeversion><!--optional, xs:integer, customized version No. which is between 1 and 255-->
customizeversion>
 <companyName><!--optional, xs:string, the manufacturing company's abbreviation--></companyName>
 <copyright><!--optional, xs:string, copyright information--></copyright>
 <systemName><!--optional, xs:string , storage system name: "storageManagement"-storage management system,
"distributedStorageManagement"-distrubuted storage management system--></systemName>
 <systemStatus><!--optional, xs:string,system status: "configured"-configured, "unConfigured"-not configured--></
systemStatus>
 <isLeaderDevice><!--optional, xs:boolean, whether it is the corresponding device of the resource IP address--></
isLeaderDevice>
 <clusterVersion><!--dependent, xs:string, system cluster version. This node is valid when the value of isLeaderDevice
is true--></clusterVersion>
 <manufacturer><!--optional, xs:string, manufacturer information: "hikvision"-Hikvision devices; for neutral devices,</p>
this node should be empty--></manufacturer>
 <customizedInfo><!--optional, xs:string, order No. of the customization project. For baseline devices, this node is</p>
empty; for custom devices, the order No. of the customization project will be returned by this node--></
customizedInfo>
 <localZoneNum><!--optional, xs:integer, number of local zones--></localZoneNum>
 <alarmOutNum><!--optional, xs:integer, number of alarm outputs--></alarmOutNum>
 <distanceResolution><!--optional, xs:float, resolution of distance, unit: meter--></distanceResolution>
 <angleResolution><!--optional, xs:float, resolution of angle, unit: degree--></angleResolution>
 <speedResolution><!--optional, xs:float, resolution of speed, unit: m/s--></speedResolution>
 <detectDistance><!--optional, xs:float, detection distance, unit: meter--></detectDistance>
 <languageType><!--optional, xs:string, language type: Chinese, English, Spanish, Portuguese, Italian, French, Russian,</pre>
German, Polish, Turkish, Greek, Czech, Brazilian, Portuguese, Slovenian, Swedish, Norwegian, Slovak, Serbian, Dutch,
Hungarian, Irish, Bulgarian, Hebrew, Thai, Indonesian, Arabic, Traditional Chinese--></languageType>
 <relayNum><!--optional, xs:integer, number of local relays--></relayNum>
 <electroLockNum><!--optional, xs:integer, number of local electronic locks--></electroLockNum>
 <RS485Num><!--optional, xs:integer, number of local RS-485--></RS485Num>
 <powerOnMode><!--optional, xs:string, device startup mode: "button"-press button to power on (default), "adapter"-</p>
connect adapter to power on--></powerOnMode>
 <DockStation>
  <!--optional, dock station configuration-->
  <Platform>
   <!--optional, platform configuration-->
   <type><!--required, xs:string, platform type: none, 9533, 8618, ISAPI--></type>
   <ip><!--optional, xs:string, IP address --></ip>
   <port><!--optional, xs:integer, communication port--></port>
   <userName><!--required, xs:string, user name, which is used for the dock station to log in to platform--></
userName>
   <password><!--required, xs:string, password, which is used for the dock station to log in to platform, it should be</pre>
encrypted--></password>
  </Platform>
  <centralStorageBackupEnabled><!--optional, xs:boolean, whether to enable central storage backup-->
centralStorageBackupEnabled>
 </DockStation>
 <webVersion><!--optional, read-only, xs:string, web version No.--></webVersion>
```

```
<deviceRFProgramVersion><!--optional, read-only, xs:string, version No. of the device's RF (Radio Frequency)</pre>
program--></deviceRFProgramVersion>
 <securityModuleSerialNo><!--optional, read-only, xs:string, serial No. of the security module-->
securityModuleSerialNo>
 <securityModuleVersion><!--optional, read-only, xs:string, version No. of the security module-->
securityModuleVersion>
 <securityChipVersion><!--optional, read-only, xs:string, version No. of the security chip--></securityChipVersion>
 <securityModuleKeyVersion><!--optional, read-only, xs:string, version No. of the security module key-->
securityModuleKeyVersion>
 <UIDLampRecognition><!--optional, information of the UID lamp recognition device-->
  <enabled><!--optional, xs:boolean, whether to enable-->/enabled>
 </UIDLampRecognition>
 <bootTime><!--optional, xs:string, read-only, system boot time, ISO 8601 format; the maximum length is 32 bytes--
></bootTime>
 <ZigBeeVersion min="0" max="16"><!--optional, xs:string, ZigBee module version--></ZigBeeVersion>
 <R3Version min="0" max="16"><!--optional, xs:string, R3 module version--></R3Version>
 <RxVersion min="0" max="16"><!--optional, xs:string, Rx module version--></RxVersion>
 <bspVersion><!--optional, xs:string, BSP software version--></bspVersion>
 <dspVersion><!--optional, xs:string, DSP software version--></dspVersion>
 <localUIVersion><!--optional, xs:string, local UI version--></localUIVersion>
 <isResetDeviceLanguage>
  <!--optional, boolean, whether it supports resetting the device language (only for Admin and Installer)-->false
 </isResetDeviceLanguage>
</DeviceInfo>
```

7.32 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>
```

7.33 XML_EventNotificationAlert_ANPR

XML message about ANPR results

```
<EventNotificationAlert version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema"><!--required, xs:object, ANPR
result-->
 <ipAddress><!--required, xs:string, IPv4 address of the device that triggers the alarm--></ipAddress>
 <ipv6Address><!--optional, xs:string, IPv6 address of the device that triggers the alarm--></ipv6Address>
 <portNo><!--optional, xs:integer, port No. of the device that triggers the alarm--></portNo>
 <protocol><!--required, xs:string, transmission communication protocol type: HTTP, HTTPS, EHome. The value should</pre>
be HTTP when ISAPI protocol is transmitted via EZVIZ protocol. The value should be EHome when ISAPI protocol is
transmitted via ISUP--></protocol>
 <macAddress><!--optional, xs:string, MAC address--></macAddress>
 <dynChannelID><!--optional, xs:string, digital channel No.--></dynChannelID>
 <channelID><!--optional, xs:string, channel (video channel) number of the device that triggers the alarm--></
channelID>
 <releatedChannelList><!--optional, xs:string, list of channels linked with the alarm (the same alarm source). These
channels, which are used to display live view or playback when the platform receives alarms, and that whose number
is the value of <channelID> are in the same camera. Multiple channel No. should be separated by commas--></
releatedChannelList>
 <dateTime>
  <!--required, xs:datetime, alarm triggering time, e.g., 2017-04-22T15:39:01+08:00-->
 </dateTime>
 <activePostCount><!--required, xs:integer, times that the same alarm has been uploaded--></activePostCount>
 <eventType><!--required, xs:string, event types, here it should be "ANPR"--></eventType>
 <eventState><!--required, xs:string, continuous event's status: active (valid event), inactive (invalid event)-->
eventState>
 <eventDescription><!--required, xs:string, event description--></eventDescription>
 <channelName><!--optional, xs:string, channel name--></channelName>
 <deviceID><!--optional, xs:string, device ID, which should be returned when the alarm is uploaded via ISUP--></
deviceID>
 <ANPR><!--optional, xs:object, ANPR alarm information. This node is valid only when the value of <eventType> is
ANPR-->
  <region><!--optional, xs:string, region. For details, refer to Region Code--></region>
  <country><!--optional, xs:string, country/region. For details, refer to Country/Region Code--></country>
  <area><!--optional, xs:string, regions in United Arab Emirates: FJR (Al Fujayrah), AD (Abu Dhabi,), unknown, UMW
(Umm Al Qaiwain), other, AM (Ajman), RAK (Ras Al Khaimah), DB (Dubai), SJ (Sharjah)--></area>
  required, xs:string, license plate number: "noPlate" (vehicle without license plate), "unknown" (no
license plate recognized), "XXXXXX" (recognized license plate number). The maximum string size is 32 bytes--></
licensePlate>
  required, xs:integer, recognized lane number--></line>
  <direction><!--optional, xs:string, license plate recognition direction: "reverse", "forward", "unknown"-->
  <confidenceLevel><!--required, xs:integer, confidence level, which ranges from 0 to 100--></confidenceLevel>
  civil vehicle two-line license plate, "arm"-police vehicle, "upDownMilitay"-military vehicle (up/down format),
"92TypeArm"-92 armed police vehicle, "leftRightMilitay"-military vehicle (left/right format), "02TypePersonalized"-02
personalized vehicle, "yellowTwoLine"-yellow two-line license plate, "04NewMilitay"-04 new military vehicle,
"embassy"-embassy car, "oneLineArm"-new armed police vehicle with one-line structure, "twoLineArm"-new armed
police vehicle with two-line structure, "yellow1225FarmVehicle"-yellow agricultural vehicle with 1225 structure,
"green1325FarmVehicle"-green agricultural vehicle with 1325 structure, "yellow1325FarmVehicle"-yellow agricultural
```

```
vehicle with 1325 structure, "motorola"-motorcycle, "newEnergy"-new energy vehicle license plate, "civilAviation"-
civil aviation license plate, "coach"-driver-training car, "tempTravl"-temporary license plate car, "trailer", "consulate"-
consulate car, "hongKongMacao"-vehicle entering and exiting Hong Kong and Macao, "tempEntry"-temporary entry
car, "emergency"-emergency license plate, "oneLineArmHeadquarters"-armed police headquarter license plate (one-
line), "twoLineArmHeadquarters"-armed police headquarter license plate (two-line)--></plateType>
  <place>plateColor>
   <!--optional, xs:string, license plate color: "black", "blue", "golden", "orange", "red", "yellow", "white", "unknow",
"other", "newEnergyYellowGreen" (new energy green and yellow), "civilAviationBlack" (civil aviation black),
"civilAviationGreen" (civil aviation green), "green", "mixedColor" (mixed color), "newEnergyGreen" (new energy
green)-->
  </plateColor>
  licenseBright>
   <!--optional, xs:integer, license plate brightness, which ranges from 0 to 255-->
  </licenseBright>
  <Rect><!--optional, coordinates of the license plate thumbnail in the matched picture. The origin is the upper-left
corner of the screen-->
   <height><!--required, xs:float, height, value range: [0.000,1.000]--></height>
   <width><!--required, xs:float, width, value range: [0.000,1.000]--></width>
   <x><!--required, xs:float, X-coordinate of the upper-left point, value range: [0.000,1.000]--></x>
   <y><!--required, xs:float, Y-coordinate of the upper-left point, value range: [0.000,1.000]--></y>
  </Rect>
  <pilotsafebelt>
   <!--optional, xs:string, whether the driver is wearing safety belt: "unknown, yes, no"-->
  </pilotsafebelt>
  <vicepilotsafebelt>
   <!--optional, xs:string, whether the co-driver is wearing safety belt: "unknown, yes, no"-->
  </vicepilotsafebelt>
  <pilotsunvisor>
   <!--optional, xs:string, whether the driver room's sun visor is open: "unknown, yes, no"-->
  </pilotsunvisor>
  <vicepilotsunvisor>
   <!--required, xs:string, whether the co-driver room's sun visor is open: "unknown, yes, no"-->
  </vicepilotsunvisor>
  <envprosign><!--optional, xs:string, whether it is a yellow-label vehicle: "unknown,yes,no"--></envprosign>
  <dangmark>
   <!--optional, xs:string, whether it is dangerous goods vehicle: "unknown, yes, no"-->
  </dangmark>
  <uphone>
   <!--optional, xs:string, whether the driver is making call: "unknown, yes, no"-->
  </uphone>
  <pendant>
   <!--optional, xs:string, whether there is window hangings detected: "unknown, yes, no"-->
  </pendant>
  <tissueBox>
   <!--optional, xs:string, whether there is tissue box detected: "unknown, yes, no"-->
  </tissueBox>
  <frontChild>
   <!--optional, xs:string, whether the co-driver is with baby in arm: "unknown, yes, no"-->
  </frontChild>
  <label>
   <!--optional, xs:string, whether there is label detected: "unknown, yes, no"-->
  </label>
```

```
<decoration>
   <!--optional, xs:string, whether there is decoration detected: "unknown, yes, no"-->
  </decoration>
  <smoking>
   <!--optional, xs:string, whether there is smoking detected: "unknown, yes, no"-->
  </smoking>
  <perfumeBox>
   <!--optional, xs:string, whether there is perfume box detected: "unknown, yes, no"-->
  </perfumeBox>
  <pdvs>
   <!--optional, xs:string, whether there is a person sticking out of sunroof: "unknown, yes, no"-->
  </pdvs>
  <helmet>
   <!--optional, xs:string, whether there is helmet detected: "unknown, yes, no"-->
  </helmet>
  <twoWheelVehicle>
   <!--optional, xs:string, whether there is two-wheel detected: "unknown, yes, no"-->
  </twoWheelVehicle>
  <threeWheelVehicle>
   <!--optional, xs:string, whether there is three-wheel detected: "unknown, yes, no"-->
  </threeWheelVehicle>
  <blackness>
   <!--optional, xs:integer, Ringelmann emittance, which is used for smoke detection-->
  </blackness>
  <!--optional, xs:string, confidence of the license plate's character, value range: [0,100.00]. The value is accurate to
two decimal places. For example, if the confidence of characters in the license plate "ZA12345" is 20, 30, 40, 50, 60,
and 70, it indicates that the possibility that the first character recognized is "Z" is 20%, the possibility that the second
character recognized is "A" is 30%, and so forth-->
  </place>
  <speedLimit>
   <!--optional, xs:integer, maximum speed limit, this node is valid only when overspeeding occurred-->
  </speedLimit>
  <illegalInfo>
   <!--optional, traffic violation information of the vehicle-->
   <illegalCode>
    <!--required, xs:string, violation code-->
   </illegalCode>
   <illegalName>
    <!--required, xs:string, violation name-->
   </illegalName>
   <illegalDescription>
    <!--optional, xs:string, violation description-->
   </illegalDescription>
  </illegalInfo>
  <vehicleType>
   <!--optional, xs:string, vehicle type: "SUVMPV" (SUV/MPV), "buggy" (small-sized truck), "bus", "concreteMixer"
(concrete mixer), "containerTruck" (container truck), "coupe", "crane", "hatchback", "largeBus" (large-sized bus),
"lightTruck" (light truck), "mediumBus" (middle-sized bus), "mediumHeavyTruck" (medium and heavy truck),
"miniCar" (mini sedan (transformed to "vehicle")), "minibus", "minitruck", "motorVehicle" (motor vehicle
(transformed to "vehicle")), "nonmotorVehicle" (non-motor vehicle (transformed to "threeWheelVehicle")),
"oilTankTruck" (oil tank truck), "pedestrian", "pickupTruck" (pickup truck (transformed to "buggy")), "platformTrailer"
```

```
(platform trailer), "saloon", "slagTruck" (dump truck), "smallCar" (small sedan (transformed to "vehicle")),
"threeWheelVehicle" (tricycle), "truck", "twoWheelVehicle" (two wheeler), "unknown", "van", "vehicle" (sedan)-->
  </vehicleType>
  <postPicFileName>
   <!--optional, xs:string, name of the picture selected as the checkpoint picture when illegal action occurs, "none"
refers to not selecting any picture-->
  </postPicFileName>
  <featurePicFileName>
   <!--optional, xs:string, name of the picture selected as the close-up picture when running the red light in the
intersection violation system is detected, "none" refers to not selecting any picture-->
  </featurePicFileName>
  <detectDir>
   <!--optional, xs:integer, detection direction: 1-upward, 2-downward, 3-bidirectional, 4-westward, 5-northward, 6-
eastward, 7-southward, 8-other-->
  </detectDir>
  <detectType>
   <!--optional, xs:integer, detection type: 1-inductive loop trigger, 2-video trigger, 3-multiple-frame recognition, 4-
radar trigger-->
  </detectType>
  <barrierGateCtrlType>
   <!--optional, xs:integer, whether the barrier gate is opened: 0-opened, 1-not opened-->
  </barrierGateCtrlType>
  <alarmDataType>
   <!--optional, xs:integer, 0-real-time data, 1-history data-->
  </alarmDataType>
  <dwlllegalTime>
   <!--optional, xs:integer, violation duration, which is the time difference between the capture time of the last
picture and that of the first picture, unit: millisecond-->
  </dwlllegalTime>
  <vehicleInfo><!--optional, xs:object, vehicle information-->
   <index>
    <!--required, xs:integer, vehicle No.-->
   </index>
   <vehicleType>
    <!--optional, xs:integer, vehicle type: 0-other vehicle, 1-small-sized vehicle, 2-large-sized vehicle, 3-pedestrian
trigger, 4-two wheeler trigger, 5-tricycle trigger, 6-motor vehicle trigger-->
   </vehicleType>
   <colorDepth>
    <!--required, xs:integer, shade of the vehicle color: 0-deep color, 1-light color-->
   </colorDepth>
    <!--required, xs:string, vehicle color: "unknown", "white", "silver"-silvery, "gray", "blacks"-black, "red",
"deepBlue"-dark blue, "blue", "yellow", "green", "brown", "pink", "purple", "deepGray"-dark gray, "cyan", "orange"-->
   </color>
   <speed>
    <!--required, xs:integer, vehicle speed, unit: km/h-->
   </speed>
   <length>
    <!--required, xs:integer, length of the former vehicle, unit: decimeter-->
   </length>
   <vehicleLogoRecog>
    <!--required, xs:integer, vehicle parent brand-->
```

```
</vehicleLogoRecog>
   <vehileSubLogoRecog>
    <!--optional, xs:integer, vehicle sub-brand-->
   </vehileSubLogoRecog>
   <vehileModel>
    <!--optional, xs:integer, time to market of the vehicle sub-brand-->
   </vehileModel>
   <vehicleTypeByWeight>
    <!--optional, xs:integer, 1-class one vehicle (buses with seven or less seats, trucks with capacity of 2 tons or less),
2-class two vehicle (buses with 8 to 19 seats, trucks with capacity of 2 to 5 (included) tons), 3-class three vehicle
(buses with 20 to 39 seats, trucks with capacity of 5 to 10 (included) tons), 4-class four vehicle (buses with 40 or more
seats, trucks with capacity of 10 to 15 (included) tons), 5-class five vehicle (trucks with capacity of more than 15 tons),
6-class six vehicle (trucks with capacity of more than 15 tons)-->
   </vehicleTypeByWeight>
   <CarWindowFeature><!--optional, xs:object, window feature, which is configured by the node
<CarWindowFeature> in the message of /ISAPI/ITC/carFeatureParam-->
    <tempPlate><!--optional, xs:string, whether there is a temporary license plate: unknown, yes, no-->unknown</
tempPlate>
    <passCard><!--optional, xs:string, whether there is a vehicle pass: unknown, yes, no-->unknown/passCard>
    <carCard><!--optional, xs:string, whether there is a card (business card, leaflet, etc.)-->unknown</carCard>
   </CarWindowFeature>
   <CarBodyFeature><!--optional, xs:object, vehicle body attribute, which is configured by the node
< CarBodyFeature > in the message of /ISAPI/ITC/carFeatureParam-->
    <sparetire><!--optional, xs:string, whether there is a spare tire: unknown, yes, no-->unknown/sparetire>
    <rack><!--optional, xs:string, whether there is a roof rack: unknown, yes, no-->unknown</rack>
    <sunRoof><!--optional, xs:string, whether there is a sunroof: unknown, yes, no-->unknown</sunRoof>
    <words><!--optional, xs:string, whether there are characters painted on the vehicle: unknown, yes, no--</p>
>unknown</words>
    <slagTruckCoverPlate><!--optional, xs:string, whether there is a cover on the dump truck: unknown, yes, no--
>unknown</slagTruckCoverPlate>
   </CarBodyFeature>
   <vehicleUseType><!--optional, xs:string, vehicle type: taxi, ambulance, bus, schoolBus, coach, unknown. The
vehicle type can be configured by the node < vehicleUseEnable> in the message of /ISAPI/ITC/carFeatureParam--
>taxi</vehicleUseType>
  </vehicleInfo>
  <EntranceInfo><!--optional, xs:object, entrance and exit information-->
   <parkingID>
    <!--optional, xs:string, parking space No.-->
   </parkingID>
   <gateID>
    <!--optional, xs:string, entrance and exit No.-->
   </gateID>
   <direction>
    <!--optional, xs:string, entering and exiting direction-->
   </direction>
   <cardNo>
    <!--optional, xs:string, card No.-->
   </cardNo>
   <parkType>
    <!--optional, xs:string, parking type: "permanent", "temporary"-->
   </parkType>
  </EntranceInfo>
```

```
<pictureInfoList><!--required, xs:object, picture list. Up to 8 pictures can be supported-->
   <pictureInfo><!--required, xs:object, picture information-->
    <fileName>
     <!--required, xs:string, picture name, which must correspond to the picture name transmitted with the alarm
message-->
    </fileName>
    <type>
     <!--required, xs:string, picture type: "detectionPicture, licensePlatePicture, pilotPicture, copilotPicture,
compositePicture, plateBinaryPicture, nonMotorPicture, pedestrianDetectionPicture, pedestrianPicture"-->
    </type>
    <dataType>
     <!--required, xs:integer, data type: 0-upload data, 1-upload URL-->
    </dataType>
    <picRecogMode>
     <!--optional, xs:integer, 0-front license plate recognition, 1-rear license plate recognition-->
    </picRecogMode>
    <redLightTime>
     <!--optional, xs:integer, red light time elapsed, unit: second-->
    </redLightTime>
    <vehicleHead>
     <!--optional, xs:integer, "unknown", "forward"-front license plate recognition, "back"-rear license plate
recognition-->
    </vehicleHead>
    <absTime>
     <!--optional, xs:time, absolute time, format: yyyyMMddHHmmssxxx, e.g.: 20090810235959999, the last three
number is time in millisecond-->
    </absTime>
    <plateRect>
     <!--dependent, the normalized value is the current image size in percentage multiplying 1000 and it is accurate
to three decimal places. This node is valid only when <type> is "detectionPicture"-->
     <X>
      <!--required, xs:integer, X-coordinate of the upper-left corner of the boundary frame-->
     </X>
     <Y>
      <!--required, xs:integer, Y-coordinate of the upper-left corner of the boundary frame-->
     </Y>
     <width>
      <!--required, xs:integer, width of the boundary frame-->
     </width>
     <height>
      <!--required, xs:integer, height of the boundary frame-->
     </height>
    </plateRect>
    <vehicelRect>
     <!--dependent, the normalized value is the current image size in percentage multiplying 1000. This node is valid
only when <type> is "detectionPicture"-->
     <X><!--required, xs:integer, X-coordinate of the upper-left point of the boundary frame-->
     </X>
     <Y><!--required, xs:integer, Y-coordinate of the upper-left point of the boundary frame-->
     </Y>
     <width>
      <!--required, xs:integer, width of the boundary frame-->
```

```
</width>
     <height>
      <!--required, xs:integer, height of the boundary frame-->
     </height>
    </vehicelRect>
    <pictureURL>
     <!--dependent, xs:string, picture URL, which is valid only when <dataType> is "URL"-->
    </pictureURL>
    <pld><!--optional, xs:string, the maximum string size is 32 bytes. Recommended generation rule: device serial</p>
number+time since the device started+random number-->null</pld>
   </pictureInfo>
  </pictureInfoList>
  <hasMoreData>
   <!--optional, xs:boolean, whether there is more data. This node is used to report the license plate information first,
and then report XML message with picture data; the XM message with picture data and license plate information are
linked by UUID-->
  </hasMoreData>
  listType>
  <originalLicensePlate>
   <!--optional, xs:string, original license plate number, When the license plate number is a minor language, return
the original license plate number-->
  </originalLicensePlate>
  <CRIndex>
   <!--optional, xs:integer, country/region index. For details, refer to Country/Region Code-->
  </CRIndex>
  <VehicelGPSInfo><!--optional, GPS information of the vehicle-->
   <longitudeType><!--required, xs:string, longitude, "E,W"--></longitudeType>
   <latitudeType><!--required, xs:string, latitude, "S,N"--></latitudeType>
   <Longitude><!--required, longitude information-->
    <degree><!--required, xs:integer--></degree>
  <minute><!--required, xs:integer--></minute>
  <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Longitude>
   <Latitude><!--required, latitude information-->
  <degree><!--required, xs:integer--></degree>
  <minute><!--required, xs:integer,--></minute>
  <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Latitude>
  </VehicelGPSInfo>
  <vehiclePositionControl><!--optional, xs:string, arming type: "vehicleMonitor"-intelligent arming of vehicle (PUT /</p>
ISAPI/Traffic/channels/<ID>/vehicleMonitor/<taskID>/startTask), "manualVehicleMonitor"-manual arming of vehicle
(PUT /ISAPI/Traffic/channels/<ID>/manualVehicleMonitor), "dailyVehicleMonitor"-daily arming of vehicle (you can
check whether this arming type is supported via the node isSupportDailyVehicleMonitor in the capability message
returned by /ISAPI/Traffic/channels/<ID>/vehicleDetect/capabilities; when daily arming of vehicle is enabled, both
alarm of ANPR and intelligent arming of vehicle will be uploaded; if this node is not returned, it is normal vehicle
detection--></vehiclePositionControl>
  <vehicleMonitorTaskID><!--optional, xs:string, task ID of intelligent arming of vehicle, the maximum size is 64 bytes,</p>
this node is returned when the value of vehiclePositionControl is "vehicleMonitor"--></vehicleMonitorTaskID>
  <vehicleListName><!--optional, xs:string, name of the list that the vehicle belongs to, the maximum size is 128</p>
bytes--></vehicleListName>
```

<vehicleThermometryEnabled><!--optional, xs:boolean, whether to enable vehicle temperature measurement--</p>

```
>true</vehicleThermometryEnabled>
  <currTemperature><!--optional, xs:float, temperature-->36.5</currTemperature>
  <thermometryUnit><!--optional, xs:string, temperature unit: celsius, fahrenheit, kelvin-->celsius
thermometryUnit>
  node is only used for license plates of the Middle East-->test</plateCategory>
  <played < !-- optional, xs:int, license plate size: 0 (unknown), 1 (long), 2 (short, which is used for license plates of</p>
the Middle East)-->1</plateSize>
 </ANPR>
 <UUID>
  <!--optional, xs:string, common ID, which is used to link the same capture across multiple servers-->
 </UUID>
 <picNum>
 <!--optional, xs:integer, number of pictures-->
 </picNum>
 <monitoringSiteID>
 <!--optional, xs:string, camera No.-->
 </monitoringSiteID>
 <ePlateUUID>
  <!--optional, xs:string, electronic license plate ID. If this node is configured with a value, it indicates that an
electronic license plate is linked-->
 </ePlateUUID>
 <isDataRetransmission><!--optional, xs:boolean, data retransmission mark--></isDataRetransmission>
 <SceneInfo><!--optional, scene information-->
  <scenesID><!--optional, xs:string, scene ID, value range: [1,16]--></scenesID>
  <sceneName><!--optional, xs:string, scene name, the maximum size is 32 bytes--></sceneName>
  <PTZPos><!--optional, PTZ information-->
   <elevation><!--optional, xs:integer, value range: [-900,2700]--></elevation>
   <azimuth><!--optional, xs:integer, value range: [0,3600]--></azimuth>
   <absoluteZoom><!--optional, xs:integer, value range: [0,1000]--></absoluteZoom>
  </PTZPos>
 </SceneInfo>
 <monitorDescription><!--optional, xs:string, camera information--></monitorDescription>
 <DeviceGPSInfo>
  <!--optional, xs:object, GPS location information of the device-->
  longitudeType>
   <!--required, xs:string, longitude type: E, W-->E
  /longitudeType>
  <latitudeType>
   <!--required, xs:string, latitude type: S, N-->S
  </latitudeType>
  <Longitude>
   <!--required, object, longitude-->
   <degree>
    <!--required, int, degree-->60
   </degree>
   <minute>
    <!--required, int, minute, value range: [0,59]-->59
   </minute>
   <sec>
    <!--required, float, second, value range: [0,59.999999]-->59.000000
   </sec>
```

```
</Longitude>
  <Latitude>
   <!--required, object, latitude-->
   <degree>
    <!--required, int, degree-->60
   </degree>
   <minute>
    <!--required, int, minute, value range: [0,59]-->59
   </minute>
   <sec>
    <!--required, float, second, value range: [0,59.999999], the value is accurate to six decimal places-->59.000000
   </sec>
  </Latitude>
 </DeviceGPSInfo>
 <pilotStandardSafebelt>
  <!--optional, enum, whether the driver is buckled well: unknown, yes, no-->yes
 </pilotStandardSafebelt>
 <vicepilotStandardSafebelt>
  <!--optional, enum, whether the front passenger is buckled well: unknown, yes, no-->yes
 </vicepilotStandardSafebelt>
 <trafficLightSnap>
  <!--optional, enum, whether the picture is captured at the traffic light: yes, no-->yes
 </trafficLightSnap>
 <sequence>
  <!--optional, int, vehicle capture number by the burst triggered by the network, value range: [1,4294967295]. The
burst control command will be applied after triggered by the network. Related URI: /ISAPI/Traffic/startRecognition.
Related API of Device Network SDK: NET_DVR_ContinuousShoot-->0
 </sequence>
 <relaLaneDirectionType>
  <!--optional, int, linked lane direction: 0 (other), 1 (from east to west), 2 (from west to east), 3 (from south to north),
4 (from north to south), 5 (from southeast to northwest), 6 (from northwest to southeast), 7 (from northeast to
southwest), 8 (from southwest to northeast)-->1
 </relaLaneDirectionType>
 <carDirectionType>
  <!--optional, int, vehicle moving direction on the lane: 0 (downward), 1 (upward)-->1
 </carDirectionType>
 <targetID>
  <!--optional, string, vehicle target ID, value range:[1,64]. The device should ensure that it is unique. It corresponds
to dwMatchNo in the Device Network SDK-->test
 </targetID>
 <isSecondCamera>
  <!--optional, bool, whether the picture is captured by the second camera-->false
 </isSecondCamera>
 <dataAnalysisType>
  <!--optional, int, data analysis type: 0 (data not analyzed), 1 (data already analyzed)-->1
 </dataAnalysisType>
 <RecordInfo>
  <!--optional, object, vehicle video information-->
  <fileName>
   <!--required, string, video file name: record.mp4 (vehicle video). When the video is transmitted in binary format,
the value of this node must be the same as that of Content-ID-->record.mp4
  </fileName>
```

```
<dataType>
  <!--required, int, data type: 0 (binary data), 1 (URL)-->0
  </dataType>
  <URL>
   <!--optional, string, URL. This node is valid when the value of <dataType> is URL-->null
  </URL>
 </RecordInfo>
 <VehicleWeightInfo>
  <!--optional, object, vehicle weight information-->
  <isOverWeight>
   <!--optional, bool, whether the vehicle is overweight-->false
  </isOverWeight>
  <axleNum>
   <!--optional, int, number of axles, value range:[1,10]-->4
  </axleNum>
  <overWeight>
   <!--optional, float, weight over the limit, value range: [0.000,100.000], unit: ton. The value is accurate to three
decimal places-->4.502
  </overWeight>
  <weight>
   <!--optional, float, vehicle weight, value range: [0.000,100.000], unit: ton. The value is accurate to three decimal
places-->4.502
  </weight>
  limitWeight>
   <!--optional, float, weight limit, value range: [0.000,100.000], unit: ton. The value is accurate to three decimal
places-->4.502
  /limitWeight>
  <axleLen>
   <!--optional, float, wheelbase, value range:[0.00,100.00], unit: ton. The value is accurate to two decimal places--
>4.502
  </axleLen>
  <devDescInfo>
  <!--optional, string, device description, the maximum string size is 64 bytes-->null
  </devDescInfo>
  <AxleInfoList>
   <!--optional, object, list of the axle information. The number of elements in the list is the same as the value of
<axleNum>-->
   <AxleInfo>
    <!--optional, object, information of an axle-->
    <axleWeight>
     <!--optional, float, axle weight, value range:[0.00,10000.00], unit: kg-->100.00
    </axleWeight>
    <axleDistance>
     <!--optional, int, axle distance, value range:[0,100000], unit: mm. It is the distance between the current axle and
the next axle-->30000
    </axleDistance>
   </AxleInfo>
  </AxleInfoList>
   <!--optional, int, vehicle length, value range:[1,1000000], unit: cm-->4000
  </length>
  <width>
```

```
<!--optional, int, vehicle width, value range:[1,1000000], unit: cm-->4000
  </width>
  <height>
  <!--optional, int, vehicle height, value range:[1,1000000], unit: cm-->4000
  </height>
  <tiresNum>
   <!--optional, int, number of tires, value range:[1,20]-->4
  </tiresNum>
  <approvedPassengers>
   <!--optional, int, maximum number of passengers allowed, value range:[1,100]-->7
  </approvedPassengers>
 </VehicleWeightInfo>
 <isNotSlowZebraCrossing>
  <!--optional, bool, whether the vehicle did not slow down at zebra crossing-->false
 </isNotSlowZebraCrossing>
 <isTurnRightStop>
  <!--optional, bool, whether the vehicle did not stop before turning right-->false
 </isTurnRightStop>
 <PlateInfoList>
  <!--optional, object, license plate information (only used for Hong Kong/Macau license plates)-->
  <PlateInfo>
   <!--optional, object, information of a license plate-->
   <plateRect>
    <!--optional, object, coordinate of the license plate area. This node is valid when the value of <type> is
detectionPicture. The value is normalized and equal to the size in percentage of the current image multiplying 1000.
The origin is the upper-left corner of the screen-->
    < X >
     <!--required, int, X-coordinate of the upper-left corner of the boundary frame, value range: [0,1000]-->1000
    </X>
    <Y>
     <!--required, int, Y-coordinate of the upper-left corner of the boundary frame, value range: [0,1000]-->1000
    </Y>
    <width>
     <!--required, int, width of the boundary frame, value range:[0,1000]-->1000
    </width>
    <height>
     <!--required, int, height of the boundary frame, value range:[0,1000]-->1000
    </height>
   </plateRect>
   <place>plateColor>
    <!--required, enum, license plate color: black, blue, golden, orange, red, yellow, white, unknow, other,
newEnergyYellowGreen (new energy green and yellow), civilAviationBlack (civil aviation black), civilAviationGreen (civil
aviation green), green, mixedColor (mixed color), newEnergyGreen (new energy green)-->black
   </plateColor>
   licensePlate>
    <!--required, string, license plate number: noPlate (vehicle without license plate), unknown (no license plate
recognized), XXXXXX (recognized license plate number)-->A283KY77
   </licensePlate>
   <confidenceLevel>
    <!--required, int, confidence level, value range:[0,100]-->50
   </confidenceLevel>
  </PlateInfo>
```

```
</PlateInfoList>
<deviceUUID>
<!--optional, string, device number, the maximum string size is 32 bytes. It is the device's serial number by default and can be edited by the node <deviceID> in the message of /ISAPI/System/deviceInfo-->12345
</deviceUUID>
</EventNotificationAlert>
```

See Also

<u>Region Code</u> <u>Country/Region Code</u>

7.34 XML_EventNotificationAlert_TrafficIncidentAlarmMsg

XML message about traffic incident alarm details

```
<EventNotificationAlert version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <ipAddress><!--dependent, xs: string, alarm device IPv4 address--></ipAddress>
 <ipv6Address><!--dependent, xs: string, alarm device IPv6 address--></ipv6Address>
 <portNo><!--optional, xs: integer, alarm device port No.--></portNo>
 <macAddress><!--optional, xs: string; Mac address--></macAddress>
 <channelID><!--dependent, xs: string, device channel No. that triggers alarm--></channelID>
 <dateTime><!--required, xs: datetime, alarm triggering time based on ISO8601 time format, e.g.,</p>
2017-04-22T15:39:01+08:00--></dateTime>
 <activePostCount><!--required, xs: integer, event occurred times--></activePostCount>
 <eventType><!--required, xs: string, event type, here it should be set to "AID"--></eventType>
 <eventState><!--required, xs: string, event triggering status: "active"-triggered, "inactive"-not triggered (refers to</pre>
heartbeat data)--></eventState>
 <eventDescription><!--required, xs: string--></eventDescription>
 <channelName><!--optional, xs: string, channel name (or camera name)--></channelName>
 <deviceID><!--optional, xs: string, device ID--></deviceID>
 <AID><!--dependent, this node is valid when <eventType> is "AID" -->
  <illegalTrafficEvent>
   <!--required, xs: string,
"illegalParking,wrongDirection,crossLane,congestion,pedestrian,objectDroppedDown,smoke,turnRound,laneChange,ve
hicleExist,edfManual,trafficAccident,construction,roadBlock,abandonedObject,parallelParking,
fogDetection,lowSpeed,dragRacing,SSharpDriving,unknown"-->
  </illegalTrafficEvent>
  <VehicleInfo><!--optional, vehicle information-->
   <vehicleSpeed><!--optional, xs: integer, vehicle speed, which is between 0 and 255, unit: km/h--></vehicleSpeed>
   <vehicleEnterState><!--optional, xs: string, "vehicleEnter, vehicleExit"--></vehicleEnterState>
   <vehicleConfidence><!--optional, xs: float, vehicle picture confidence, which is between 0 and 100.0-->
vehicleConfidence>
  </VehicleInfo>
  <PlateInfo><!--optional, license plate information-->
   <plate><!--required, xs: string, license plate number--></plate>
   <play="block">plateType>
    <!--required, xs: string, "unknown,92TypeCivil,arm,upDownMilitay,92TypeArm,leftRightMilitay,
02TypePersonalized,yellowTwoLine,
04NewMilitay,embassy,oneLineArm,twoLineArm,yellow1225FarmVehicle,green1325FarmVehicle,yellow1325FarmVehi
```

```
cle,motorola,coach,tempTravl,trailer,consulate,hongKongMacao,tempEntry,civilAviation,newEnergy"-->
   </placeType>
   <place>plateColor>
  <!--required, xs: string, "white, yellow, blue, black, green, civil Aviation Black, civil Aviation Green"-->
   </plateColor>
   <eironeepright</pre><!--optional, xs: integer, brightness of license plate picture, which is between 0 and 255--->
licenseBright>
   <confidence><!--optional, xs: float, confidence of license plate picture, which is between 0 and 100.0-->
confidence>
  </PlateInfo>
  <region><!--optional, xs: string, region--></region>
  <country><!--optional, xs: string, country--></country>
  <parkingSerialNo>
   <!--dependent, xs: integer, parking ID, which consists of up to 16 characters with numerics and letters, this node is
valid when <illegalTrafficEvent> is "parallelParking"-->
  </parkingSerialNo>
  <targetType>
   <!--dependent, xs: string, detection target type, this node is valid when the <illegalTrafficEvent> is "pedestrian,
twoWheelVehicle, threeWheelVehicle"-->
  </targetType>
  <AIDGPSInfo><!--optional, GPS information of the AID event (congestion event is not included)-->
   <longitudeType><!--required, xs:string, longitude, "E,W"--></longitudeType>
   <latitudeType><!--required, xs:string, latitude, "S,N"--></latitudeType>
   <Longitude><!--required, longitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Longitude>
   <Latitude><!--required, latitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Latitude>
  </AIDGPSInfo>
  <CongestionHeadGPSInfo><!--optional, GPS information of the front of the congestion-->
   <longitudeType><!--required, xs:string, longitude, "E,W"--></longitudeType>
   <latitudeType><!--required, xs:string, latitude, "S,N"--></latitudeType>
   <Longitude><!--required, longitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Longitude>
   <Latitude><!--required, latitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Latitude>
  </CongestionHeadGPSInfo>
  <CongestionTailGPSInfo><!--optional, GPS information of the end of the congestion-->
   <longitudeType><!--required, xs:string, longitude, "E,W"--></longitudeType>
   <latitudeType><!--required, xs:string, latitude, "S,N"--></latitudeType>
   <Longitude><!--required, longitude information-->
```

```
<degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Longitude>
   <Latitude><!--required, latitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Latitude>
  </CongestionTailGPSInfo>
  <OtherVehicleInfoList><!--optional, information list of other vehicles (vehicle information above is not included);
this node is returned only when there are two or more vehicles in the AID event; pictures of the vehicles in this list
cannot be uploaded-->
   <OtherVehicleInfo><!--list, information of other vehicle (single vehicle), picture of this vehicle cannot be uploaded--
>
    <VehicleInfo><!--optional, vehicle information-->
     <vehicleSpeed><!--optional, xs:integer, vehicle speed, value range: [0,255], unit: km/h--></vehicleSpeed>
     <vehicleEnterState><!--optional, xs:string, "vehicleEnter,vehicleExit"--></vehicleEnterState>
     <vehicleConfidence><!--optional, xs:float, vehicle confidence, value range: [0,100.0]--></vehicleConfidence>
     <vehicleType><!--optional, xs:string, vehicle type--></vehicleType>
     <vehicleColor><!--optional, xs:string, vehicle color--></vehicleColor>
    </VehicleInfo>
    <PlateInfo><!--optional, license plate information-->
     <plate><!--required, xs:string, license plate number--></plate>
     <plateType><!--required, xs:string, license plate type: "unknown,92TypeCivil,arm,upDownMilitay,</pre>
92TypeArm,leftRightMilitay,02TypePersonalized,yellowTwoLine,
04NewMilitay,embassy,oneLineArm,twoLineArm,yellow1225FarmVehicle,green1325FarmVehicle,yellow1325FarmVehi
cle,motorola,coach,tempTravl,trailer,consulate,hongKongMacao,tempEntry,civilAviation,newEnergy"--></plateType>
     <plateColor><!--required, xs:string, license plate color:</pre>
"white,yellow,blue,black,green,civilAviationBlack,civilAviationGreen"--></plateColor>
     -optional, xs:integer, brightness of the license plate, value range: [0,255]--></licenseBright>
     <confidence><!--optional, xs:float, license plate confidence, value range: [0,100.0]--></confidence>
    </PlateInfo>
   </OtherVehicleInfo>
  </OtherVehicleInfoList>
  <CRIndex><!--optional, xs:integer, country or region index, "0"-generic--></CRIndex>
  <Position><!--optional, target center offset relative to the camera (unit: meter), it is represented by X-coordinate
and Y-coordinate. For the X-coordinate, the left direction along the X-axis is negative and the right direction is positive.
For the Y-coordinate, the upward direction along the Y-axis is positive and there is no negative value. The midpoint of
the horizontal line (it is perpendicular to the lane) where the camera is located is the origin, which is also the midpoint
of all lanes-->
   <x><!--required, xs:float, X-coordinate--></x>
   <y><!--required, xs:float, Y-coordinate--></y>
  </Position>
 </AID>
 <detectionPictureTransType><!--optional, xs: string, picture transmission mode: "url, binary"--></detectionPicture>
 <detectionPicturesNumber>
  <!--optional, xs: string, number of alarm pictures, this node will be returned only when the pictures exist in the
alarm information -->
 </detectionPicturesNumber>
 <PictureURLInfoList><!--dependent, picture URL list, this node is valid when <detectionPictureTransType> is "url"-->
  <PictureURLInfo><!--optional-->
```

```
<pictureName><!--required, xs: string--><pictureName>
   <pictureURL><!--required, xs: string--></pictureURL>
  </PictureURLInfo>
 </PictureURLInfoList>
 <monitoringSiteID><!--optional, xs:string, camera No.--></monitoringSiteID>
 <monitorDescription><!--optional, xs:string, camera information--></monitorDescription>
 <SceneInfo><!--optional, scene information-->
  <scenesID><!--optional, xs:string, scene ID, value range: [1,16]--></scenesID>
  <sceneName><!--optional, xs:string, scene name, the maximum size is 32 bytes--></sceneName>
  <PTZPos><!--optional, PTZ information-->
   <elevation><!--optional, xs:integer, value range: [-900,2700]--></elevation>
   <azimuth><!--optional, xs:integer, value range: [0,3600]--></azimuth>
   <absoluteZoom><!--optional, xs:integer, value range: [0,1000]--></absoluteZoom>
  </PTZPos>
 </SceneInfo>
 <detectDir><!--optional, xs:integer, detection direction: 1-upward, 2-downward, 3-bidirectional, 4-from east to west,
5-from south to north, 6-from west to east, 7-from north to south, 8-others--></detectDir>
 <UUID><!--optional, xs:string, UUID (general unique identification code), it is used to link the same capture across
servers--></UUID>
</EventNotificationAlert>
```

Interaction Example of Receiving Traffic Incident Alarm in Arming Mode

```
GET /ISAPI/Event/notification/alertStream HTTP/1.1
Accept: text/html, application/xhtml+xml, */*
Accept-Language: en-US
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; Trident/7.0; rv:11.0) like Gecko
Accept-Encoding: gzip, deflate
Host: 10.17.133.46
DNT: 1
Connection: Keep-Alive
Cookie: language=zh; sdMarkMenu=8%3Avehicle; sdMarkTab 1 0=0%3AsettingBasic;
sdMarkTab 6 0=5%3AeventException; sdMarkTab 6 1=6%3AsmartLoiterDetection;
sdMarkTab 7 0=1%3AplanCapture; sdMarkTab 7 1=0%3AstorageManageHarddisk;
sdMarkTab 8=0%3AvehicleParam; WebSession=f81610c130711300cf30
HTTP/1.1 200 OK
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary=boundary
--boundary
Content-Type: application/xml; charset="UTF-8"
Content-Length: 480
<EventNotificationAlert version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <ipAddress>172.6.64.7</ipAddress>
 <ipv6Address>fe80::4080:c199:f513:3ebf%13</ipv6Address>
 <portNo>8000</portNo>
 <macAddress>01:17:24:45:D9:F4</macAddress>
 <channelID>1</channelID>
 <dateTime>2017-04-22T15:39:01+08:00</dateTime>
```

```
<activePostCount>1</activePostCount>
  <eventType>AID</eventType>
  <eventState>active</eventState>
  <eventDescription>automatic incident detection</eventDescription>
  <channelName>Camera1</channelName>
    <illegalTrafficEvent>illegalParking</illegalTrafficEvent>
    <VehicleInfo>
       <vehicleSpeed>60</vehicleSpeed>
       <vehicleEnterState>vehicleEnter</vehicleEnterState>
       <vehicleConfidence>99.9</vehicleConfidence>
     </VehicleInfo>
     <PlateInfo>
       <plate>XA12345</plate>
       <plateType>92TypeCivil</plateType>
       <placed later color > 
       <licenseBright>100</licenseBright>
       <confidence>99.9</confidence>
    </PlateInfo>
    <region>1</region>
    <country>1</country>
    <parkingSerialNo>1</parkingSerialNo>
    <relatedLaneNo>1</relatedLaneNo>
  </AID>
  <detectionPictureTransType>binary</detectionPicture>
  <detectionPicturesNumber>1</detectionPicturesNumber>
  <PictureURLInfoList>
    <PictureURLInfo>
       <pictureName>detectionPicture<pictureName>
       <pictureURL></pictureURL>
    </PictureURLInfo>
  </PictureURLInfoList>
</EventNotificationAlert>
--boundary
Content-Disposition: form-data;
Content-Type: image/pjpeg
Content-Length: 480
.....JFIF.....`.`.....C..........
.....$.' ",#..(7),01444.'9=82<.342...C. ....
%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.....
.....w.....!1..AQ.aq."2...B.... #3R..br.
.$4.
--boundary--
```

Interaction Example of Receiving Traffic Incident Alarm in Listening Mode

```
POST /test HTTP/1.1
Accept: text/html, application/xhtml+xml, */*
Accept-Language: en-US
Content-Type: multipart/form-data; boundary=----7e13971310878
User-Agent: Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; WOW64; Trident/5.0)
Accept-Encoding: gzip, deflate
Host: 10.10.36.29:8080
Content-Length: 9907
Connection: Keep-Alive
Cache-Control: no-cache
--boundary
Content-Disposition: form-data; name="aid.xml";filename="aid.xml";
Content-Type: text/xml
Content-Length: 150
<EventNotificationAlert/>
--boundary
Content-Disposition: form-data; name="detectionPicture.jpg"; filename="detectionPicture.jpg";
Content-Type: image/pjpeg
Content-Length: 9907
.....JFIF.....`.`.`.....C...........
.....$.' ",#..(7),01444.'9=82<.342...C. ....
%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.....
.....w.....!1..AQ.aq."2...B.... #3R..br.
.$4.
--boundary--
HTTP/1.1 200 OK
test: mime
Connection: Keep-Alive
Content-Length: 183
Cache-Control: no-store
```

7.35 XML_EventNotificationAlert_TFS

XML message about alarm details of traffic enforcement

```
<EventNotificationAlert version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema"><!--required, xs:object, alarm details of traffic enforcement-->
  <ipAddress><!--required, xs:string, IPv4 address of the device that triggers the alarm--></ipAddress>
  <ipv6Address><!--optional, xs:string, IPv6 address of the device that triggers the alarm--></ipv6Address>
  <portNo><!--optional, xs:integer, port No. of the device that triggers the alarm--></portNo>
```

```
<protocol><!--required, xs:string, transmission communication protocol type: HTTP, HTTPS, EHome. The value should</pre>
be HTTP when ISAPI protocol is transmitted via EZVIZ protocol. The value should be EHome when ISAPI protocol is
transmitted via ISUP--></protocol>
 <macAddress><!--optional, xs:string, MAC address--></macAddress>
 <channelID><!--optional, xs:string, channel (video channel) number of the device that triggers the alarm--></
channelID>
 <dateTime>
   <!--required, xs:datetime, alarm triggering time, e.g., 2017-04-22T15:39:01+08:00-->
 </dateTime>
 <activePostCount><!--required, xs:integer, times that the same alarm has been uploaded--></activePostCount>
 <eventType><!--required, xs:string, event types, here it should be "TFS" (traffic enforcement)--></eventType>
 <eventState><!--required, xs:string, continuous event's status: active (valid event), inactive (invalid event)-->
eventState>
 <eventDescription><!--required, xs:string, event description--></eventDescription>
 <channelName><!--optional, xs:string, channel name--></channelName>
 <deviceID><!--optional, xs:string, device ID, which should be returned when the alarm is uploaded via ISUP-->
deviceID>
 <TFS><!--optional, object, event information of traffic enforcement-->
   <illegalTrafficEvent>
    <!--required, xs:string, traffic violation event:
abandonedObject,checkPoint,conflagration,congestion,construction,crossLane,edfManual,fogDetection,gasser,group,il
legalParking,intersectionStranded,laneChange,objectDroppedDown,occupyOvertakingLaneparallelParking,pedestrian,p
oly Jam, prohibition Mark Violation, road Block, slow Moving, smoke, speed, sudden Speed Drop, traffic Accident, traffic Conflict, and the sum of the property of the proper
turnRound,unknown,vehicleexist,wrongDirection,blackSmokeVehicle,occupyDedicatedLane,notDriveInDedicatedLane,
nonZipperMerge,jamCrossLine,SSharpDriving,notKeepDistance,notSlowZebraCrossing,overtakeRightSide,lowSpeed,dra
gRacing,changeLaneContinuously,largeVehicleOccupyLine-->
   </illegalTrafficEvent>
   <illegalType><!--required, xs:string, violation types--></illegalType>
   <VehicleInfo><!--optional, vehicle information-->
    <vehicleType><!--optional, xs:string, vehicle type: "SUVMPV" (SUV/MPV), "buggy" (small-sized truck), "bus",</pre>
"concreteMixer" (concrete mixer), "containerTruck" (container truck), "coupe", "crane", "hatchback", "largeBus" (large-
sized bus), "lightTruck" (light truck), "mediumBus" (middle-sized bus), "mediumHeavyTruck" (medium and heavy
truck), "miniCar" (mini sedan (transformed to "vehicle")), "minibus", "minitruck", "motorVehicle" (motor vehicle
(transformed to "vehicle")), "nonmotorVehicle" (non-motor vehicle (transformed to "threeWheelVehicle")),
"oilTankTruck" (oil tank truck), "pedestrian", "pickupTruck" (pickup truck (transformed to "buggy")), "platformTrailer"
(platform trailer), "saloon", "slagTruck" (dump truck), "smallCar" (small sedan (transformed to "vehicle")),
"threeWheelVehicle" (tricycle), "truck", "twoWheelVehicle" (two wheeler), "unknown", "van", "vehicle" (sedan)--></
vehicleType>
    <vehicleColor><!--optional, xs:string, vehicle color: "unknown", "white", "silver"-silvery, "gray", "blacks"-black,</pre>
"red", "deepBlue"-dark blue, "blue", "yellow", "green", "brown", "pink", "purple", "deepGray"-dark gray, "cyan",
"orange"--></vehicleColor>
    <vehicleSpeed><!--optional, xs:integer, vehicle speed, which is between 0 and 255, unit: km/h--></vehicleSpeed>
     <vehicleEnterState><!--optional, xs:string, vehicle entering status: vehicleEnter (vehicle entered), vehicleExit</p>
(vehicle exited)-->vehicleEnter</vehicleEnterState>
    <vehicleConfidence><!--optional, xs:float, vehicle picture confidence, which is between 0 and 100.0-->
vehicleConfidence>
    <vehicleLogo><!--optional, xs:integer, vehicle main brand. For details, refer to Main Vehicle Brand Reference-->
vehicleLogo>
   </VehicleInfo>
   <PlateInfo><!--optional, license plate information-->
    <plate><!--required, xs:string, license plate number: noPlate (vehicle without license plate), unknown (no license</pre>
plate recognized), XXXXXX (recognized license plate number)--></plate>
```

```
<play="block">plateType>
    <!--required, xs:string, license plate type: "92FarmVehicle"-civil vehicle two-line license plate, "arm"-police
vehicle, "upDownMilitay"-military vehicle (up/down format), "92TypeArm"-92 armed police vehicle, "leftRightMilitay"-
military vehicle (left/right format), "02TypePersonalized"-02 personalized vehicle, "yellowTwoLine"-yellow two-line
license plate, "04NewMilitay"-04 new military vehicle, "embassy"-embassy car, "oneLineArm"-new armed police
vehicle with one-line structure, "twoLineArm"-new armed police vehicle with two-line structure,
"yellow1225FarmVehicle"-yellow agricultural vehicle with 1225 structure, "green1325FarmVehicle"-green agricultural
vehicle with 1325 structure, "yellow1325FarmVehicle"-yellow agricultural vehicle with 1325 structure, "motorola"-
motorcycle, "newEnergy"-new energy vehicle license plate, "civilAviation"-civil aviation license plate, "coach"-driver-
training car, "tempTravl"-temporary license plate car, "trailer", "consulate"-consulate car, "hongKongMacao"-vehicle
entering and exiting Hong Kong and Macao, "tempEntry"-temporary entry car, "emergency"-emergency license plate,
"oneLineArmHeadquarters"-armed police headquarter license plate (one-line), "twoLineArmHeadquarters"-armed
police headquarter license plate (two-line)-->
   </placeType>
   <place>plateColor>
  <!--required, xs:string, license plate color: "black", "blue", "golden", "orange", "red", "yellow", "white", "unknow",
"other", "newEnergyYellowGreen" (new energy green and yellow), "civilAviationBlack" (civil aviation black),
"civilAviationGreen" (civil aviation green), "green", "mixedColor" (mixed color), "newEnergyGreen" (new energy
green)-->
   </place>
   <enseBright><!--optional, xs:integer, brightness of license plate picture, which is between 0 and 255-->/
licenseBright>
   <confidence><!--optional, xs:float, confidence of license plate picture, which is between 0 and 100.0-->
confidence>
  </PlateInfo>
  <SceneInfo><!--optional, scene information-->
   <scenesID><!--required, xs:string, scene ID, which is between 1 and 16--></scenesID>
   <sceneName><!--required, xs:string, scene name, up to 32 characters can be contained in the name-->
sceneName>
   <PTZPos><!--optional, PTZ postion-->
  <elevation><!--optional, xs:integer, range: [-900,2700]--></elevation>
  <azimuth><!--optional, xs:integer, range: [0,3600]--></azimuth>
  <absoluteZoom><!--optional, xs:integer, range: [0, 1000]---></absoluteZoom>
   </PTZPos>
   <relatedAreaNo><!--optional, string, linked area number, value range: [1,8]. The number is generated by calling /
ISAPI/Traffic/channels/<channelID>/eventRule/<SID> (related node: <ruleId>). The related URI for configuring
congestion detection event is /ISAPI/Traffic/channels/<channelID>/AID/<SID>/ployCongestion (the linked area number
is specified by relatedAreaNo)-->1</relatedAreaNo>
   <RelatedRegionCoordinatesList><!--optional, array, list of coordinates of linked areas. The number of areas that can
be linked is between 3 and 10. This node contains the coordinates of areas in the node <relatedAreaNo>-->
    <RegionCoordinates><!--optional, object, coordinate of the area. The origin is the upper-left corner of the screen--</p>
>
    <positionX><!--required, float, X-coordinate, value range:[0.000,1.000]-->0.000</positionX>
    <positionY><!--required, float, Y-coordinate, value range:[0.000,1.000]-->0.000/positionY>
    </RegionCoordinates>
   </RelatedRegionCoordinatesList>
  </SceneInfo>
  <relatedLaneNo><!--required, xs:integer, linked lane No., which is between 1 and 6--></relatedLaneNo>
  <region><!--optional, xs:integer, region. For details, refer to Region Code--></region>
  <country><!--optional, xs:integer, country/region. For details, refer to Country/Region Code--></country>
  <parkingSerialNo>
```

<!--dependent, xs:integer, parking ID, which consists of up to 16 characters with numerics and letters, this node is

```
valid when <illegalTrafficEvent> is "parallelParking"-->
  </parkingSerialNo>
  <crossLane>
   <!--dependent, xs:boolean, whether the driving on lane line event occurred during parallel parking, this node is
valid when <illegalTrafficEvent> is "parallelParking"-->
  </crossLane>
  <crossSpaces>
   <!--dependent, xs:boolean, whether the parking space crossing event occurred during parallel parking, this node is
valid when <illegalTrafficEvent> is "parallelParking"-->
  </crossSpaces>
  <angledParking>
   <!--dependent, xs:boolean, whether the inclined parking event occurred during parallel parking, this node is valid
when <illegalTrafficEvent> is "parallelParking"-->
  </angledParking>
  <alarmValidity>
   <!--dependent, xs:integer, alarm validity, which is between 0 and 100, this node is valid when <illegalTrafficEvent>
is "parallelParking"-->
  </alarmValidity>
  <CRIndex><!--optional, xs:integer, country/region index. For details, refer to Country/Region Code--></CRIndex>
  <illegalTrafficSubEvent><!--optional, xs:string, sub-event of vehicle violation actions: normal, crossLane (parking on</p>
the line), crossBerth (parking over two spaces), crossLaneBerth (parking on the line and over two spaces),
illegalParking (illegal parking). This node is returned only when the value of illegalTrafficEvent is parallelParking--
>normal</illegalTrafficSubEvent>
  <TFSGPSInfo><!--optional, GPS information of the TFS event-->
   <longitudeType><!--required, xs:string, longitude, "E,W"--></longitudeType>
   <latitudeType><!--required, xs:string, latitude, "S,N"--></latitudeType>
   <Longitude><!--required, longitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Longitude>
   <Latitude><!--required, latitude information-->
    <degree><!--required, xs:integer--></degree>
    <minute><!--required, xs:integer--></minute>
    <sec><!--required, xs:float, accurate to 6 decimal places--></sec>
   </Latitude>
  </TFSGPSInfo>
 </TFS>
 <detectionPictureTransType><!--optional, xs:string, picture transmission mode: "url, binary"--></detectionPicture>
 <detectionPicturesNumber>
  <!--optional, xs:string, number of alarm pictures, this node will be returned only when the pictures exist in the
alarm information -->
 </detectionPicturesNumber>
 <PictureURLInfoList><!--dependent, picture URL list, this node is valid when <detectionPictureTransType> is "url"-->
  <PictureURLInfo><!--optional-->
   <pictureName><!--required, xs:string, "compositePicture,licensePlatePicture,vehiclePicture"--><pictureName>
   <pictureURL><!--required, xs:string, picture URL--></pictureURL>
  </PictureURLInfo>
 </PictureURLInfoList>
 <UUID><!--optional, xs:string, UUID (general unique identification code), it is used to link the same capture across
servers--></UUID>
 <monitoringSiteID><!--optional, string, camera number-->test</monitoringSiteID>
```

See Also

XML_EventNotificationAlert_AlarmEventInfo Region Code Country/Region Code Main Vehicle Brand Reference

Example

Interaction Example of Receiving Violation Enforcement Alarm in Arming Mode

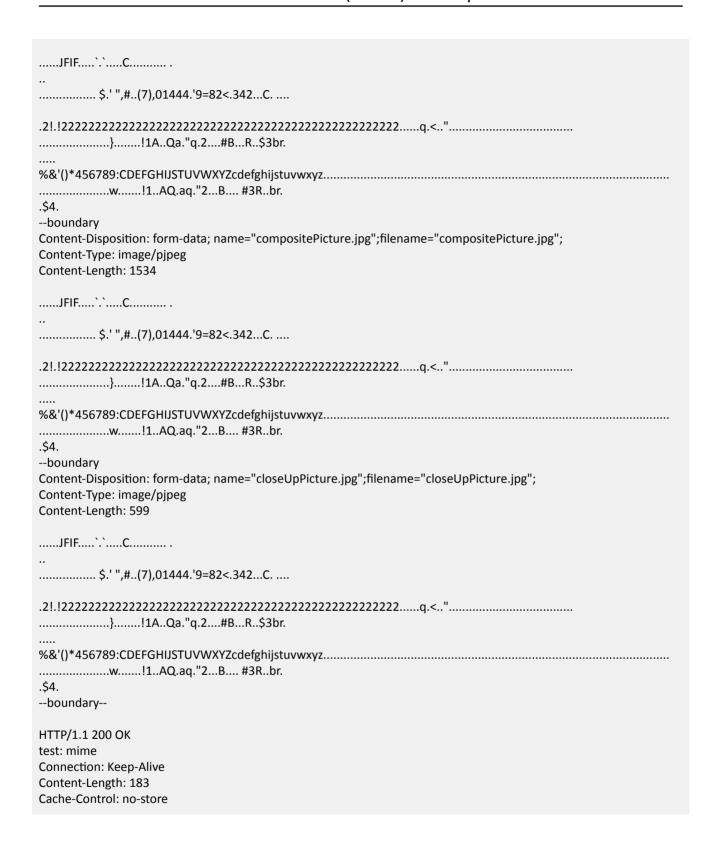
```
GET /ISAPI/Event/notification/alertStream HTTP/1.1
Accept: text/html, application/xhtml+xml, */*
Accept-Language: en-US
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; Trident/7.0; rv:11.0) like Gecko
Accept-Encoding: gzip, deflate
Host: 10.17.133.46
DNT: 1
Connection: Keep-Alive
Cookie: language=zh; sdMarkMenu=8%3Avehicle; sdMarkTab 1 0=0%3AsettingBasic;
sdMarkTab_6_0=5%3AeventException; sdMarkTab_6_1=6%3AsmartLoiterDetection;
sdMarkTab_7_0=1%3AplanCapture; sdMarkTab_7_1=0%3AstorageManageHarddisk;
sdMarkTab 8=0%3AvehicleParam; WebSession=f81610c130711300cf30
HTTP/1.1 200 OK
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary=boundary
--boundary
Content-Type: application/xml; charset="UTF-8"
Content-Length: 480
<EventNotificationAlert version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <ipAddress>172.6.64.7</ipAddress>
 <ipv6Address>fe80::4080:c199:f513:3ebf%13</ipv6Address>
 <portNo>8000</portNo>
 <macAddress>01:17:24:45:D9:F4</macAddress>
 <channelID>1</channelID>
```

```
<dateTime>2017-04-22T15:39:01+08:00</dateTime>
<activePostCount>1</activePostCount>
<eventType>TFS</eventType>
<eventState>active</eventState>
<eventDescription>automatic incident detection</eventDescription>
<channelName>Camera1</channelName>
<deviceID>test0123</deviceID>
  <illegalTrafficEvent>laneChange</illegalTrafficEvent>
  <illegalType>1625</illegalType>
  <VehicleInfo>
    <vehicleType>vehicle</vehicleType>
    <vehicleColor>white</vehicleColor>
    <vehicleSpeed>60</vehicleSpeed>
    <vehicleEnterState>vehicleEnter/vehicleEnterState>
    <vehicleConfidence>99.9</vehicleConfidence>
    <vehicleLogo>1028</vehicleLogo>
  </VehicleInfo>
  <PlateInfo>
    <play>plate>ZA12345</plate>
    <plateType>92TypeCivil</plateType>
    <placed lateral color > cplateColor > cplate
    <licenseBright>100</licenseBright>
    <confidence>99.9</confidence>
  </PlateInfo>
  <SceneInfo>
    <scenesID>1</scenesID>
    <sceneName>scene1</sceneName>
    <PTZPos>
  <elevation>-899</elevation>
  <azimuth>3599</azimuth>
  <absoluteZoom>999</absoluteZoom>
    </PTZPos>
  </SceneInfo>
  <relatedLaneNo>1</relatedLaneNo>
  <region>1</region>
  <country>1</country>
</TFS>
<detectionPictureTransType>binary</detectionPicture>
<detectionPicturesNumber>3</detectionPicturesNumber>
<PictureURLInfoList>
  <PictureURLInfo>
    <pictureName>compositePicture<pictureName>
    <pictureURL></pictureURL>
  </PictureURLInfo>
  <PictureURLInfo>
    <pictureName>licensePlatePicture<pictureName>
    <pictureURL></pictureURL>
  </PictureURLInfo>
  <PictureURLInfo>
    <pictureName>vehiclePicture<pictureName>
    <pictureURL></pictureURL>
```

```
</PictureURLInfo>
</PictureURLInfoList>
</EventNotificationAlert>
--boundary
Content-Disposition: form-data; name="licensePlatePicture.jpg";filename="licensePlatePicture.jpg";
Content-Type: image/pipeg
Content-Length: 200
.....JFIF.....`.`.`.....C..........
.....$.' ",#..(7),01444.'9=82<.342...C. ....
%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.....
.....w.....!1..AQ.aq."2...B.... #3R..br.
.$4.
--boundary
Content-Disposition: form-data; name="vehiclePicture.jpg";filename="vehiclePicture.jpg";
Content-Type: image/pjpeg
Content-Length: 9907
.....JFIF.....`.`.`....C..........
.....$.' ",#..(7),01444.'9=82<.342...C. ....
%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.....
.....w.....!1..AQ.aq."2...B.... #3R..br.
.$4.
--boundary
Content-Disposition: form-data; name="compositePicture.jpg"; filename="compositePicture.jpg";
Content-Type: image/pjpeg
Content-Length: 1534
.....JFIF.....`.`.....C..........
.....$.' ",#..(7),01444.'9=82<.342...C. ....
%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.....
.....w.....!1..AQ.aq."2...B.... #3R..br.
.$4.
--boundary
Content-Disposition: form-data; name="closeUpPicture.jpg"; filename="closeUpPicture.jpg";
Content-Type: image/pipeg
Content-Length: 599
```

Interaction Example of Receiving Violation Enforcement Alarm in Listening Mode

```
POST /test HTTP/1.1
Accept: text/html, application/xhtml+xml, */*
Accept-Language: en-US
Content-Type: multipart/form-data; boundary=-----7e13971310878
User-Agent: Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; WOW64; Trident/5.0)
Accept-Encoding: gzip, deflate
Host: 10.10.36.29:8080
Content-Length: 9907
Connection: Keep-Alive
Cache-Control: no-cache
--boundary
Content-Disposition: form-data; name="tfs.xml";filename="tfs.xml";
Content-Type: text/xml
Content-Length: 150
<EventNotificationAlert/>
--boundary
Content-Disposition: form-data; name="licensePlatePicture.jpg"; filename="licensePlatePicture.jpg";
Content-Type: image/pjpeg
Content-Length: 200
.....JFIF.....`.`.....C.........
.....$.' ",#..(7),01444.'9=82<.342...C. ....
%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.....
.....w.....!1..AQ.aq."2...B.... #3R..br.
.$4.
--boundary
Content-Disposition: form-data; name="vehiclePicture.jpg"; filename="vehiclePicture.jpg";
Content-Type: image/pjpeg
Content-Length: 9907
```



7.36 XML_EventTriggerCapType

XML message about capability of alarm linkage action types

```
<EventTriggerCapType version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <isSupportCenter><!--optional, xs:boolean--></isSupportCenter>
 <isSupportRecord><!--optional, xs:boolean--></isSupportRecord>
 <isSupportMonitorAlarm><!--optional, xs:boolean--></isSupportMonitorAlarm>
 <isSupportBeep><!--optional, xs: boolean, whether it supports audible warning--></isSupportBeep>
 <isSupportIO><!--optional, xs:boolean--></isSupportIO>
 <isSupportFTP><!--optional, xs:boolean--></isSupportFTP>
 <isSupportEmail><!--optional, xs:boolean--></isSupEmail>
 <isSupportLightAudioAlarm><!--optional, xs:boolean--></isSupportLightAudioAlarm>
 <isSupportFocus><!--optional, xs:boolean--></isSupportFocus>
 <isSupportPTZ><!--optional, xs:boolean--></isSupportPTZ>
 <maxPresetActionNum>
  <!--dependent, xs:integer, it is valid only when <isSupportPTZ> is "true"-->
 </maxPresetActionNum>
 <maxPatrolActionNum>
  <!--dependent, xs:integer, it is valid only when <isSupportPTZ> is "true"-->
 </maxPatrolActionNum>
 <maxPatternActionNum>
  <!--dependent, xs:integer, it is valid only when <isSupportPTZ> is "true"-->
 </maxPatternActionNum>
 <isSupportTrack><!--optional, xs:boolean, whether it supports PTZ linked tracking--></isSupportTrack>
 <isSupportWhiteLight>
  <!--optional, xs: boolean, whether it supports supplement light alarm linkage-->
 </isSupportWhiteLight>
 <isSupportCloud><!--optional, xs:boolean, whether it supports upload to the cloud--></isSupportCloud>
 <targetNotificationInterval max="1000" min="0" default="30"><!--xs:integer, range: [0, 1000], the default value is 30,
unit: seconds, this node is valid for < Motion Detection Trigger Cap > and < Tamper Detection Trigger Cap > and this node is
valid when <isSupportPTZ> is "true"--></targetNotificationInterval>
 <direction opt="both,forward,reverse"><!--xs:string, triggering direction, this node is valid for the node
<BlackListTriggerCap>, <WhiteListTriggerCap>, and <VehicleDetectionTriggerCap>--></direction>
 <presetDurationTime min="" max=""><!--dependent, xs:integer--></presetDurationTime>
 <isSupportSMS><!--optional, xs:boolean, whether to support SMS (Short Message Service)--></isSupportSMS>
 <maxCellphoneNum><!--dependent, xs:integer, the maximum number of cellphones, which is node is valid only</p>
when <isSupportSMS> is "true"--></maxCellphoneNum>
 <isSupportOSD><!--optional, xs:boolean--></isSupportOSD>
 <isSupportAudio><!--optional, xs:boolean, whether it supports setting audio alarm independently. If this node is set
to "true", audio alarm and buzzer alarm can be linked separately, and the linage method is audio--></isSupportAudio>
 <AudioAction><!--dependent, this node is valid when <isSupportBeep> is "true" or <isSupportAudio> is "true"-->
  <audioTypeList>
   <audioType><!--list-->
    <audioID><!--required, xs:integer, alarm sound type--></audioID>
    <audioDescription><!--required, xs:string, alarm sound description, it should correspond to the alarm sound type--
></audioDescription>
   </audioType>
  </audioTypeList>
  <alarmTimes opt="0,1,2,3,4,5,6,7,8,9,255"><!--required, xs:integer, alarm times, it is between 0 and 9, 255-
continuous alarm, unit: time--></alarmTimes>
```

```
</AudioAction>
 <isSupportSMS><!--optional, xs:boolean --></isSupportSMS>
 <maxCellphoneNum><!--dependent, if <isSupportSMS> is true, xs:integer--></maxCellphoneNum>
 <isNotSupportCenterModify><!--optional, xs:boolean, whether editing configuration parameters of the monitoring
center is not supported: "true"-yes (configuration parameters of the monitoring center cannot be edited), "false" or
this node is not returned-no (configuration parameters of the monitoring center can be edited)--></
isNotSupportCenterModify>
 <isSupportMessageConfig>
  <!--optional, xs:boolean, whether it supports SMS configuration, if supports, set cellphoneNumber to null-->
 </isSupportMessageConfig>
 <isSupportAnalogOutput><!--optional, xs:boolean, whether it supports IO output of linkage analog channel--></
isSupportAnalogOutput>
 <isSupportIOOutputUnify><!--optional, xs:boolean, whether it supports configuration of IO output--></
isSupportIOOutputUnify>
 <isSupportFaceContrast><!--optional, xs:boolean, whether it supports face picture comparison linkage--></
isSupportFaceContrast>
 <isSupportSiren><!--optional, xs:boolean, whether it supports siren linkage--></isSupportSiren>
 <isSupportOutput><!--optional, xs:boolean, whether it supports relay linkage--></isSupportOutput>
</EventTriggerCapType>
```

7.37 XML_EventTriggersCap

XML message about linkage capabilities of different alarm categories

```
<EventTriggersCap version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<DiskfullTriggerCap><!--optional, xs: EventTriggerCapType--></DiskfullTriggerCap>
<DiskerrorTriggerCap><!--optional, xs: EventTriggerCapType--></DiskerrorTriggerCap>
<NicbrokenTriggerCap><!--optional, xs: EventTriggerCapType--></NicbrokenTriggerCap>
<lpconflictTriggerCap><!--optional, xs: EventTriggerCapType-->/lpconflictTriggerCap>
<IllaccesTriggerCap><!--optional, xs: EventTriggerCapType--></lllaccesTriggerCap>
<BadvideoTriggerCap><!--optional, xs: EventTriggerCapType--></BadvideoTriggerCap>
<VideomismatchTriggerCap><!--optional, xs: EventTriggerCapType--></VideomismatchTriggerCap>
<IOTriggerCap><!--optional, xs: EventTriggerCapType--></IOTriggerCap>
<LineDetectTriggerCap><!--optional, xs: EventTriggerCapType--></LineDetectTriggerCap>
<RegionEntranceTriggerCap><!--optional, xs: EventTriggerCapType--></RegionEntranceTriggerCap>
<RegionExitingTriggerCap><!--optional, xs: EventTriggerCapType--></RegionExitingTriggerCap>
<LoiteringTriggerCap><!--optional, xs: EventTriggerCapType--></LoiteringTriggerCap>
<GroupDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></GroupDetectionTriggerCap>
<RapidMoveTriggerCap><!--optional, xs: EventTriggerCapType--></RapidMoveTriggerCap>
<ParkingTriggerCap><!--optional, xs: EventTriggerCapType--></ParkingTriggerCap>
<unattendedBaggageTriggerCap><!--optional, xs: EventTriggerCapType--></UnattendedBaggageTriggerCap>
<FireDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></fireDetectionTriggerCap>
<FireDetectionCap><!--optional, xs: EventTriggerCapType--></fireDetectionCap>
<StorageDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></StorageDetectionTriggerCap>
<ShipsDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></ShipsDetectionTriggerCap>
<ThermometryCap><!--optional, xs: EventTriggerCapType--></ThermometryCap>
<VandalProofTriggerCap><!--optional, xs: EventTriggerCapType--></VandalProofTriggerCap>
 <BlackListTriggerCap><!--opt, xs: EventTriggerCapType, configuration capability of blocklist arming linkage--></
BlackListTriggerCap>
```

```
< WhiteListTriggerCap><!--opt, xs: EventTriggerCapType, configuration capability of allowlist arming linkage--></
WhiteListTriggerCap>
 <AllVehicleListTriggerCap><!--optional,xs:EventTriggerCapType, configuration capability of other list arming linkage--</p>
></AllVehicleListTriggerCap>
 <OtherVehicleListTriggerCap><!--optional,xs:EventTriggerCapType--></OtherVehicleListTriggerCap>
 <PeopleDetectionTriggerCap><!--optional,xs:EventTriggerCapType--></PeopleDetectionTriggerCap>
 <PIRAlarmCap><!--optional, xs: EventTriggerCapType--></PIRAlarmCap>
 <TamperDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></TamperDetectionTriggerCap>
 <DefocusDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></DefocusDetectionTriggerCap>
 <FaceDetectionTriggerCap><!--optional, xs: EventTriggerCapType-->/FaceDetectionTriggerCap>
 <SceneChangeDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></SceneChangeDetectionTriggerCap>
 <VandalProofAlarmCap><!--optional, xs: EventTriggerCapType--></VandalProofAlarmCap>
 <JudgmentTriggerCap><!--optional, xs: EventTriggerCapType--></JudgmentTriggerCap>
 <FightingTriggerCap><!--optional, xs: EventTriggerCapType-->/FightingTriggerCap>
 <RisingTriggerCap><!--optional, xs: EventTriggerCapType--></RisingTriggerCap>
 <DozingTriggerCap><!--optional, xs: EventTriggerCapType--></DozingTriggerCap>
 <CountingTriggerCap><!--optional, xs: EventTriggerCapType--></CountingTriggerCap>
 <VideoLossTriggerCap><!--optional, xs: EventTriggerCapType--></VideoLossTriggerCap>
 <HideTriggerCap><!--optional, xs:EventTriggerCapType--></HideTriggerCap>
 <AlarmInTriggerCap><!--optional, xs: EventTriggerCapType--></AlarmInTriggerCap>
 <VehicleDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></VehicleDetectionTriggerCap>
 <AudioExceptionCap><!--optional, xs: EventTriggerCapType--></AudioExceptionCap>
 <FiledDetectTriggerCap><!--optional, xs: EventTriggerCapType--></FiledDetectTriggerCap>
 <MotionDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></MotionDetectionTriggerCap>
 <TemperatureCap><!--optional, xs: EventTriggerCapType--></TemperatureCap>
 <IntelligentTriggerCap><!--optional, xs: EventTriggerCapType--></IntelligentTriggerCap>
 <FaceContrastTriggerCap><!--optional, xs: EventTriggerCapType, face picture comparison alarm linkage--></
FaceContrastTriggerCap>
 <PersonDensityDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></PersonDensityDetectionTriggerCap>
 <PersonQueueDetectionTriggerCap><!--optional, xs: EventTriggerCapType, queue management alarm linkage--></
PersonQueueDetectionTriggerCap>
 <HumanRecognitionTriggerCap><!--optional,xs: EventTriggerCapType-->
 <FaceSnapTriggerCap><!--optional, xs: EventTriggerCapType--></FaceSnapTriggerCap>
 <isSupportWhiteLightAction>
  <!--dependent, xs: boolean, see details in EventTriggerCapType, it is valid when isSupportWhiteLight is "true"-->
 </isSupportWhiteLightAction>
 <isSupportAudioAction>
  <!--dependent, xs: boolean, see details in EventTriggerCapType, it is valid when isSupportBeep is "true"-->
 </isSupportAudioAction>
 <HFPDTriggerCap><!--optional, xs: EventTriggerCapType--></HFPDTriggerCap>
 <MixedTargetDetectionCap><!--optional, xs: EventTriggerCapType--></MixedTargetDetectionCap>
 <HVTVehicleDetectionTriggerCap><!--optional, xs: EventTriggerCapType--></HVTVehicleDetectionTriggerCap>
 <VCATriggerCap><!--optional, xs: EventTriggerCapType--></VCATriggerCap>
 <PIRCap><!--optional, xs: EventTriggerCapType--></PIRCap>
 <IllegalParkingTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports illegal parking detection-->
IllegalParkingTriggerCap>
 <PedestrianTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports pedestrian detection--></
PedestrianTriggerCap>
 <TrafficAccidentTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports traffic accident detection--></
TrafficAccidentTriggerCap>
 <ConstructionTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports construction detection--></
ConstructionTriggerCap>
```

```
<RoadBlockTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports roadblock detection--></
RoadBlockTriggerCap>
 <AbandonedObjectTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports objects dropped down</p>
detection--></AbandonedObjectTriggerCap>
<ParallelParkingTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports parallel parking detection--></
ParallelParkingTriggerCap>
 <ParkingStateTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports parking space status detection,
currently this node is not supported--></ParkingStateTriggerCap>
 <CongestionTriggerCap><!--optional, xs: EventTriggerCapType, whether it supports congestion detection--></
CongestionTriggerCap>
 <IntersectionAnalysisCap><!--optional, xs: EventTriggerCapType, whether it supports intersection analysis-->
IntersectionAnalysisCap>
 <ShipsFlowDetectionTriggerCap><!--optional,xs:EventTriggerCapType, ship flow detection-->
ShipsFlowDetectionTriggerCap>
 <dredgerDetectionTriggerCap><!--optional,xs:EventTriggerCapType, dredger detection-->/
dredgerDetectionTriggerCap>
 <voltageInstableTriggerCap><!--optional,xs:EventTriggerCapType, supply voltage exception-->/
voltageInstableTriggerCap>
 <HighHDTemperatureTriggerCap><!--optional, xs:EventTriggerCapType, HDD high temperature detection-->
HighHDTemperatureTriggerCap>
 <LowHDTemperatureTriggerCap><!--optional, xs:EventTriggerCapType, HDD low temperature detection-->
LowHDTemperatureTriggerCap>
 <HDImpactTriggerCap><!--optional, xs:EventTriggerCapType, HDD impact detection-->/HDImpactTriggerCap>
 <HDBadBlockTriggerCap><!--optional, xs:EventTriggerCapType, HDD bad sector detection-->
HDBadBlockTriggerCap>
 <SevereHDFailureTriggerCap><!--optional, xs:EventTriggerCapType, HDD severe fault detection-->
SevereHDFailureTriggerCap>
 <HUMANATTRIBUTECap><!--optional, xs:EventTriggerCapType--></HUMANATTRIBUTECap>
 <HumanAttributeTriggerCap><!--optional, xs:EventTriggerCapType, human body attribute-->
HumanAttributeTriggerCap>
 <BlackListFaceContrastTriggerCap><!--opt, xs:EventTriggerCapType, alarm linkage capability of blocklist face
comparison--></BlackListFaceContrastTriggerCap>
 <FaceLibTriggerCap><!--optional, xs:EventTriggerCapType-->/FaceLibTriggerCap>
 <SafetyHelmetDetectionTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of hard hat
detection--></SafetyHelmetDetectionTriggerCap>
 < Vibration Detection Trigger Cap > <!-- optional, xs: Event Trigger Cap Type, alarm linkage capability of vibration detection--
></VibrationDetectionTriggerCap>
 <RadarLineDetectionTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of radar line crossing
detection--></RadarLineDetectionTriggerCap>
 <RadarFieldDetectionTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of radar intrusion
detection--></RadarFieldDetectionTriggerCap>
 <HBDLibTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of human body picture library-->
HBDLibTriggerCap>
 <FaceThermometryCap><!--optional, xs:EventTriggerCapType--></FaceThermometryCap>
 <NoMaskDetectionTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of no wearing mask
detection--></NoMaskDetectionTriggerCap>
 <TMPATriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of temperature measurement pre-
alarm--></TMPATriggerCap>
 <FireEscapeDetectionTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of fire engine access
detection--></FireEscapeDetectionTriggerCap>
 <TakingElevatorDetectionTriggerCap><!--optional, xs:EventTriggerCapType, alarm linkage capability of elevator
detection--></TakingElevatorDetectionTriggerCap>
```

See Also

XML EventTriggerCapType

7.38 XML HVTVehicleDetectCfg

Mixed traffic detection message in XML format

```
<?xml version="1.0" encoding="utf-8"?>
<HVTVehicleDetectCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <enabled><!--required, xs:boolean--></enabled>
 <stateOrProvince><!--optional, xs:integer--></stateOrProvince>
 <br/><bestDetectionSize><!--optional, xs:integer--></bestDetectionSize>
 <HVTVehicleDetectSceneList>
  <HVTVehicleDetectScene/><!--optional, see details in XML HVTVehicleDetectScene-->
 </HVTVehicleDetectSceneList>
 <nation><!--optional,xs:string, "EU,ER,EUandCIS,ME,AII", "ER"-CIS Region, "EU"-Europe Region, "ME"-Middle East,
"All"-All Region--></nation>
 <countryIndex><!--optional,xs:integer, country/region No.--></countryIndex>
 <!--compatibility between countryIndex and CRIndex-->
 <!--device: both fields will be returned, when the value of CRINDEX is smaller than or equal to 255, the value of
countryIndex is the same as that of CRIndex; when the value of CRIndex is larger than 255, the value of countryIndex
is 253 (the field countryIndex is invalid)-->
<!--integration flow: for new users, CRIndex has higher priority over countryIndex and the field countryIndex is used
only when countryIndex does not exist; when the value of countryIndex is 253, additional logic processing should be
adopted to use CRIndex field-->
 <CRIndex><!--optional, xs:integer, country/region No., when the value is 0, it indicates that no country/region is
specified--></CRIndex>
</HVTVehicleDetectCfg>
```

See Also

XML HVTVehicleDetectScene

7.39 XML_HVTVehicleDetectScene

Message about mixed traffic detection (single scene) in XML format

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

```
<id><!--required, xs:integer--></id>
<sceneName><!--optional, xs:string--></sceneName>
<enabled><!--required, xs:boolean--></enabled>
 <PlateRecogParam>
  <PlateRecogRegionList>
   <PlateRecogRegion><!--list-->
    <id><!--required, xs:string--></id>
    <RegionCoordinatesList>
     <RegionCoordinates><!--list,required-->
      <positionX><!--required, xs:integer, X-coordinate--></positionX>
      <positionY><!--required, xs:integer, Y-coordinate--></positionY>
     </RegionCoordinates>
    </RegionCoordinatesList>
   </PlateRecogRegion>
  </PlateRecogRegionList>
</PlateRecogParam>
<LaneConfig>
  <LaneList size="">
   <Lane><!--list-->
    <laneId><!--required, xs:integer--></laneId>
    <RegionCoordinatesList><!--required-->
     <RegionCoordinates><!--list-->
      <positionX><!--required, xs:integer--></positionX>
      <positionY><!--required, xs:integer--></positionY>
     </RegionCoordinates>
    </RegionCoordinatesList>
    -></lineType><!--optional, xs:string, "laneBoundaryLine,laneLine"--></lineType>
    <carDriveDirect><!--dependent, xs:string, this field is valid when the value of lineType is "laneLine",</pre>
"unknow,up_to_down,down_to_up"--></carDriveDirect>
   </Lane>
  </LaneList>
</LaneConfig>
 <AtRoadsideCalib><!--optional-->
  <RegionCoordinatesList>
   <RegionCoordinates><!--required, list-->
    <positionX><!--required, xs:integer, X-coordinate--></positionX>
    <positionY><!--required, xs:integer, Y-coordinate--></positionY>
   </RegionCoordinates>
  </RegionCoordinatesList>
 </AtRoadsideCalib>
 <AboveRoadCalib><!--optional-->
  <RegionCoordinatesList>
   <RegionCoordinates><!--required, list-->
    <positionX><!--required, xs:integer, X-coordinate--></positionX>
    <positionY><!--required, xs:integer, Y-coordinate--></positionY>
   </RegionCoordinates>
  </RegionCoordinatesList>
</AboveRoadCalib>
</HVTVehicleDetectScene>
```

7.40 XML_ImageMerge_Channels

ImageMerge message in XML format

```
<ImageMerge version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
 <isMerge>
  <!--req, xs:integer, whether to composite pictures: 0-no, 1-yes-->
 </isMerge>
 <twoMergeType>
  <!--req, xs:integer, composite with two pictures: "201", "202"-->
 </twoMergeType>
 <threeMergeType>
  <!--req, xs:integer, composite with three pictures, "301", "302"-->
 </threeMergeType>
 <fourMergeType>
  <!--req, xs:integer, composite with four pictures: "401", "402", "403", "404"-->
 </fourMergeType>
 <fiveMergeType>
  <!--req, xs:integer, composite with five pictures: "501", "502"-->
 </fiveMergeType>
 <sixMergeType>
  <!--req, xs:integer, composite with six pictures: "601", "602"-->
 </sixMergeType>
 <jepgEffectType>
  <!--req, xs:string, picture quality type: "quality", "maxSize"-->
 </jepgEffectType>
 <jpegQuality>
  <!--dep, xs:integer, picture quality, ranges from 30 to 95, the default value is 80-->
 </jpegQuality>
 <mergeMaxSize>
  <!--dep, xs:integer, reserved-->
 </mergeMaxSize>
 <featureIndex>
  <!--opt, xs:integer, 0-close-up picture is not required, 1-get the first close-up picture, 2-get the second close-up
picture, 3-get the third close-up picture-->
 </featureIndex>
 <closeupIndex><!--dep, xs: integer, close-up picture No., which is between 0 and 5--></closeupIndex>
 <closeupScale><!--dep, xs: integer, close-up scale level, which is between 0 and 100--></closeupScale>
 <positionOffset><!--dep, xs: integer, position offset, which is between 50 and 2047--></positionOffset>
 <maxMergedPicSize><!--dep, xs: integer, maximum size of composite picture value range [200,4096], unit: KB-->
maxMergedPicSize>
 <orignalPicScale><!--dep, xs: integer, zooming rate of original picture: 0, 1, 2, 3, 4--></orignalPicScale>
 <featureScale><!--dep, xs:integer, 2-close-up thumbnail, 4-close-up picture, this node is valid when the monitoring
point is a terminal--></featureScale>
 <copyVehicle1302>
  <!--dep, xs: integer, 0-not copy, 1,2,3-copy the first, second, or third picture, this node is valid when the monitoring
point is a terminal-->
 </copyVehicle1302>
 <copyVehicleOther>
  <!--dep, xs: integer, 0-not copy, 1,2,3-copy the first, second, or third picture, this node is valid when the monitoring
point is a terminal-->
```

```
</copyVehicleOther>
 <featureStrategy>
  <!--dep, xs: integer, strategy for getting close-up picture: 0-coordinates of license plate is in priority (default), 1-force
the ANPR area -->
 </featureStrategy>
 <play>plateYOffset>
  <!--dep, xs: integer, y-coordinate offset of center point of license plate, unit: pixel, the default value is 0, and the
value range is [-500,500], upward offset: positive, downward offset: negative-->
 </place/Offset>
 <recYOffset>
  <!--dep, xs: integer, y-coordinate offset of center point of ANPR area, unit: pixel, the default value is 0, and the value
range is [-500,500], upward offset: positive, downward offset: negative-->
 </recYOffset>
 <ipegResolutionWidth>
  <!--reg, xs:integer, width of picture resolution-->
 </jpegResolutionWidth>
 <jpegResolutionHeight>
  <!--req, xs: integer, height of picture resolution-->
 </ipegResolutionHeight>
 <PictureAddIntInfo>
  <!--opt, overlay information on alarm picture-->
  <isAddTargetInfo>
   <!--opt, xs:integer, whether to overlay target information on alarm picture: 0-no (default), 1-yes-->
  </isAddTargetInfo>
  <isAddRuleInfo>
   <!--opt, xs:integer, whether to overlay rule information on alarm picture: 0-no (default), 1-yes-->
  </isAddIntInfo>
  <isAddTrackingInfo opt="true,false">
   <!--opt, xs:boolean, whether to overlay pattern information on alarm picture: 0-no (default), 1-yes-->
  </isAddTrackingInfo>
 </PictureAddIntInfo>
 <ProspectmapInfo><!--opt, overlay information on distant view picture-->
  <isAddTargetInfo>
   <!--opt, xs:integer, whether to overlay target information on video: 0-no (default), 1-yes-->
  </isAddIntInfo>
  <isAddRuleInfo>
   <!--opt, xs:integer, whether to overlay rule information on video: 0-no (default), 1-yes-->
  </isAddIntInfo>
  <isAddTrackingInfo opt="true,false">
   <!--opt, xs:boolean, whether to overlay pattern information on alarm picture: 0-no (default), 1-yes-->
  </isAddTrackingInfo>
 </ProspectmapInfo>
</lmageMerge>
```

7.41 XML_ITCCap

XML message about intelligent traffic capability

```
<ITCCap version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema"> 
<isSupportITC><!—dependent, xs:boolean--></isSupportITC>
```

```
<isSupportITCStatus>
<!--reg, xs:boolean, whether it supports device status-->
</isSupportITCStatus>
<isSupportIllegalDictionary>
<!--req, xs:boolean, whether it supports traffic violation dictionary-->
</isSupportIllegalDictionary>
<isSupportVehicleDetection>
 <!--dep, xs: boolean, whether it supports vehicle detection-->
</isSupportVehicleDetection>
<isSupportHVTVehicleDetection><!--dependent, xs:boolean--></isSupportHVTVehicleDetection>
<isSupportlicencePlateAuditData><!--optional, xs:boolean--></isSupportlicencePlateAuditData>
<isSupportSearchLPListAudit><!--optional, xs:boolean--></isSupportSearchLPListAudit>
<isSupportEvidenceDictionary>
 <!--reg, xs: boolean, whether it supports traffic law enforcement dictionary-->
</isSupportEvidenceDictionary>
<isSupportITCSetUp>
 <!--req, xs:boolean, whether it supports installation parameters-->
</isSupportITCSetUp>
<isSupportTrafficParam>
<!--req, xs:boolean, whether it supports vehicle counting statistics-->
</isSupportTrafficParam>
<isSupportManualCap>
 <!--req, xs:boolean, whether it supports manual capture-->
</isSupportManualCap>
<isSupportIllegalUploadPic>
<!--reg, xs:boolean, whether it supports uploading pictures-->
</isSupportIllegalUploadPic>
<isSupportContinueCap>
 <!--reg, xs:boolean, whether it supports continuous capture-->
</isSupportContinueCap>
<isSupportWiper>
<!--req, xs:boolean, whether it supports wiper-->
</isSupportWiper>
<isSupportEntranceCap>
 <!--optional, xs:boolean, whether it supports entrance and exit functions-->
</isSupportEntranceCap>
<isSupportPlateRecognitionParam>
 <!--req, xs:boolean, whether it supports license plate recognition parameters-->
</isSupportPlateRecognitionParam>
<isSupportSyncSignalOutput>
<!--req, xs:boolean, whether it supports output parameters-->
</isSupportSyncSignalOutput>
<isSupportSyncPower>
 <!--req, xs:boolean, whether it supports signal light synchronization-->
</isSupportSyncPower>
<isSupportImageMerge>
<!--req, xs:boolean, whether it supports picture composition-->
</isSupportImageMerge>
<isSupportCabinetParam>
 <!--req, xs:boolean, whether it supports device cabinet alarm-->
</isSupportCabinetParam>
<isSupportCarFeatureParam>
```

```
<!--reg, xs:boolean, whether it supports vehicle features-->
 </isSupportCarFeatureParam>
 <isSupportLightCorrect>
 <!--req, xs:boolean, whether it supports exporting illegal action codes-->
</isSupportLightCorrect>
<isSupportSnapshot>
 <!--reg, xs:boolean, whether it supports image capture resolution-->
</isSupportSnapshot>
<isSupportIllegalCodeData>
 <!--req, xs:boolean, whether it supports signal light correction-->
</isSupportIllegalCodeData>
<isSupportNetStorage>
 <!--req, xs:boolean, whether it supports network storage-->
 </isSupportNetStorage>
<isSupportAlgorithmsVersion>
 <!--req, xs:boolean, whether it supports getting algorithm library status-->
</isSupportAlgorithmsVersion>
 <isSupportAlgorithmsState>
 <!--req, xs:boolean, whether it supports getting algorithm library version-->
</isSupportAlgorithmsState>
 <isSupportPlateCorrection>
 <!--opt, xs:boolean, whether it supports manual license plate correction-->
 </isSupportPlateCorrection>
<isSupportRadarSetUp>
 <!--reg, xs:boolean, whether it supports radar construction parameters-->
</isSupportRadarSetUp>
<isSupportRadarMeasurement>
 <!--opt, xs:boolean, whether it supports radar measurement configuration-->
</isSupportRadarMeasurement>
</ITCCap>
```

7.42 XML_ITDeviceAbility

ITDeviceAbility message in XML format.

```
<|TDeviceAbility version="2.0"><!--capabilities of traffic camera and traffic terminal server-->
<channelNO><!--req, xs:integer, channel No.--></channelNO>
<|TCAbility><!--req, traffic camera capability-->
<|OInNo min="" max=""/>
<!--req, xs:integer, max and min number of IO input ports-->
<|OOutNo min="" max=""/>
<!--req, xs:integer, max and min number of IO output ports-->
<singleIOTriggerNum>4</singleIOTriggerNum>
<!--req, xs:integer, group number of single IO trigger-->
|singleIOTriggerNum>8</lightArrayNum>8</lightArrayNum>
<!--req, xs:integer, group number of traffic lights-->
<measureArrayNum>4</measureArrayNum>
<!--req, xs:integer, group number of velocimetry modes-->
<lensMode opt="CCD,CMOS"/>
<!-- Lens mode-->
```

```
<PreTrigger>
   <enabled></enabled>
     <!--reg, whether it is the original trigger mode, no this node if not support-->
    </PreTrigger>
  <triggerMode
opt="postIOSpeed,postSingleIO,postRS485,postRS485Radar,postVirtualcoil,epoliceIoTrafficLights,epoliceRS485,peRS48
5,postNoComityPed, postRedLightPed, videoEpolice"/>
  <!--reg, trigger mode, the cameras of the version smaller than V3.1 are not support it-->
<support opt="imageOverlayString,calibrateTime,multiNIC,NICBonding,voiceIntercom,IOEnableCfg,FTPExpand"/>
  <!--req, bySupport??
  bySupport&0x1??indicates whether support characters overlay configuration extension
  bySupport&0x2??indicates whether support extend time correction cofiguration
  bySupport&0x4, indicates whether support multi-NIC(multi-NIC segregation
  bySupport&0x8, indicates whether support NIC bonding function(network failover)
  bySupport&0x10, indicates whether support voice talk
  bySupport&0x20??indicates whether support single IO trigger interface cofiguration
  bySupport&0x40??indicates whether support FTP interface extension(support in v3.6)-->
<supportMultiRadar opt="postRS485Radar,postVirtualcoil,videoEpolice,postHVT"/>
  <!--reg, wSupportMultiRadar??
  wSupportMultiRadar&0x1??indicates whether bayonet RS485 radar support lane associsted with radar
wSupportMultiRadar&0x2??indicates whether bayonet virtual coilsupport lane associsted with radar
wSupportMultiRadar&0x4??indicates whether hybrid bayonet support lane associsted with radar
wSupportMultiRadar&0x8??indicates whether video detection support lane associsted with radar-->
<!CRPresetNum min="0" max="8"/><!--req, ICR preset number (optical filter offset point) byICRPresetNum-->
<ICRTimeSlot min="0" max="8"/><!--req, ICR time slot number??1??8??byICRTimeSlot-->
<expandRs485SupportSensor opt="peRS485,epoliceRS485"/>
  <!--req, byExpandRs485SupportSensor??
  byExpandRs485SupportSensor &0x1??indicates e-police vehicle inspection support vehicle detector
byExpandRs485SupportSensor &0x2??indicates bayonet e-police inspection support detector -->
 <expandRs485SupportSignalLampDet opt="videoEpolice,epoliceRS485,peRS485"/>
  <!--req, byExpandRs485SupportSignalLampDet??
  byExpandRs485SupportSignalLampDet &0x1??indicates e-police inspection support signal detector
byExpandRs485SupportSignalLampDet &0x2??indicates bayonet e-police inspection support external signal detector
byExpandRs485SupportSignalLampDet &0x4??indicates video e-police support external signal detector-->
  <ImageCombine>
   <enabled>true</enabled>
   <!--req, it supports the picture mergence, no this node if not support-->
  </lmageCombine>
  <TrafficDataUpload>
   <UploadType1>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.1 (that is, the type supported by intelligent traffic camera,
      COMM_UPLOAD_PLATE_RESULT of arming mode), no this node if not support-->
     </UploadType1>
   <UploadType2>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2 (that is, the type supported by ITS,
      COMM ITS PLATE RESULT of listening mode), no this node if not support-->
     </UploadType2>
```

```
<UploadType3>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2 (that is, the type supported by intelligent traffic camera,
      COMM_ITS_PLATE_RESULT of arming mode), no this node if not support-->
     </UploadType3>
  </TrafficDataUpload>
  <VideoLocalRecord>
   <enabled>true</enabled>
   <!--req, whether it supports local recording, no this node if not support-->
  </VideoLocalRecord>
  <PicLocalStore>
   <enabled>true</enabled>
   <!--req, whether it supports local storage of pictures, no this node if not support-->
  </PicLocalStore>
  <PlateRecognise>
   <enabled>true</enabled>
   <!--req, whether it supports license plate recognition, no this node if not support-->
   <regionType opt="rect,polygon"/>
   <!--the supported types of license plate recognition area-->
   <plateTypeopt opt="standard92,standard92,armedPolice,police,standard92Back,embassy,agricultural,moto"/>
   <plateColor opt="blue,yellow,white,black,green"/>
   <vehicleType opt="small,big"/>
   <bodyworkColor opt="white,silver,gray,black,red,darkblue,blue,yellow,green,brown,pink,violet"/>
  </PlateRecognise>
  <imageOverlayString>
   <mode1>
    <!--opt, the character overlay on the picture of original intelligent traffic camera, no this node if not support-->
    <overlayStringType
opt="monitor,time,speed,speedRatio,speedLimit,plate,carColor,carLength,carType,laneNum,milliSecond,illegalInfo,red
OnTime"/>
    <!--opt, monitoring site, time, speed, overspeed ratio, speed limit sign, license plate, color of vehicle, length of
vehicle,
    vehicle type, traffic lane ID, millisecond, violation information, the time that the red light has been lighted-->
   </mode1>
   <mode2>
    <!--opt, the character overlay on the picture of ITS or camera of ITS, no this node if not support-->
opt="monitor,site,roadNum,instrumentNum,directionNum,directionDes,laneNum,laneDes,capTime,capTimeMilli,plate
,carColor,carLength,carType,carBrand,speed,speedRatio,speedLimit,illegalDes,redStart,redStop,redOnTime,securityCod
e,capCode"/>
    <!--opt, monitoring site, location, intersection ID, device ID, direction ID, direction description, lane ID, lane
description,
    the time of capturing, the time of capturing(millisecond), license plate number, color of vehicle, length of vehicle,
vehicle type,
    vehicle brands, speed, overspeed ratio, speed limit sign, violation information, the starting time of red light, the
ending time of
    red light, the time that the red light has been lighted, security code, capturing ID-->
    <itemLength min="0" max=""/>
    <!--opt, length of character overlay-->
    <changeLineNum min="0" max="10"/>
```

```
<!--opt, the number of line breaks-->
    <spaceNum min="0" max="255"/>
    <!--opt, the number of spaces-->
    linePercent min="0" max="100"/>
    <!--opt, percentage of overlay line-->
    <itemsStlye opt="horizontal,vertical"/>
    <!--opt, overlay style: horizontal, vertical -->
    <startPosTop min="0" max="2448"/>
    <!--opt, the upper coordinate of starting point-->
    <startPosLeft min="0" max="2448"/>
    <!--opt, the left coordinate of starting point-->
    <charStyle opt="SongTi,WeiTi"/>
    <!--opt, font type: standard typeface of Chinese, typeface of Wei-->
    <charSize opt="16*16,32*32,48*48,64*64"/>
    <!--req, font size: 0-32*32(Chinese)/16*32(English), 1-64*64(Chinese)/32*64(English), 2-48*48 -->
    <charInterval min="0" max="16"/>
    <!--opt, character spacing-->
    <ForeClorRGB>
      <enabled>
       true</enabled>
        <!--opt, whether it supports to adjust RGB value of foreground color, no this node if not support-->
    </ForeClorRGB>
    <BackClorRGB>
      <enabled>
       true</enabled>
        <!--opt, whether it supports to adjust RGB value of background color, no this node if not support-->
    </BackClorRGB>
    <ColorSelfAdapt>
      <enabled>
       true</enabled>
        <!--opt, whether the color is adaptive, no this node if not support-->
    </ColorSelfAdapt>
   <itemTypeCustomLength min="0" max="32"/><!--opt, Custom definition type length(added in
NET_ITS_OVERLAP_CFG_V50), it will not be displayed if not supported.-->
   </mode2>
  </imageOverlayString>
  <TPSAlarm>
   <!--req, whether it supports uploading information of traffic counting, no this node if not support-->
   <UploadType1>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2(that is, the type supported by ITS, COMM_ITS_TRAFFIC_COLLECT
of listening mode), no this node if not support-->
     </UploadType1>
   <UploadType2>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2(that is, the type supported by intelligent traffic camera,
COMM_ITS_PLATE_RESULT of arming mode(COMM_ITS_TRAFFIC_COLLECT), no this node if not support-->
     </UploadType2>
  </TPSAlarm>
  <CameraSetup>
```

```
<!--reg, it supports camera mounting configuration, no this node if not support-->
     <enabled>
       true</enabled>
</CameraSetup>
   <AlarmRecordDown>
     <!--req, it supports to download the alarm record, no this node if not support-->
     <enabled>
       true</enabled>
</AlarmRecordDown>
   <supportMilliCheckTime>
     <!--reg, support millisecond time correction -->
     <enabled>true</enabled>
    </supportMilliCheckTime>
   <SnapStatusDetectCFG>
     <!--req, enabled parameter capability of status detection, the corresponding stucture is
(NET_DVR_STATUS_DETECTCFG), the node does not display when there is no support-->
     <triggerIODectect opt="true,false"/><!--req,IO status detection triggered by ITC, true-enable??false-disable-->
     <flashOutDetect opt="true,false"/><!--req,ITC sync-output status detection, true-enable??false-disable-->
     <RS485Detect opt="true,false"/><!--req,ITC RS485 receive status detection, true-enable??false-disable-->
     <trafficLightDetect opt="true,false"/><!--req,ITC traffic light detection, true-enable??false-disable-->
    </SnapStatusDetectCFG>
    <SnapRadarParam>
     <!--req, radar configuration parameter capability, the corresponding stucture is (NET_ITC_RADAR_PARAM),the
node does not display when there is no support-->
     <radarType opt="noRadar,Andaolei,Olivia,microwave,IOExpanBox,other"/><!--req,radar type, 0-noRadar,1-</pre>
Andaolei, 2-Olivia, 3-microwave, 4-IOExpanBox, 0xff-other -->
     <levelAngle min="0" max="90"/><!--req,the angle with horizontal line, 0~90 -->
     <radarSensitivity min="0" max="65535"/><!--req, radar sensitivity, 0~65535 -->
     <radarSpeedValidTime min="0" max="2000"/><!--req, valid time of radar speed [0~2000] -->
     lineCorrectParam min="0.0" max="2.0"/>
     <!--reg,linear correction parameters -->
     <constCorrectParam min="-100" max="100"/>
     <!--req,constant correction parameters -->
    </SnapRadarParam>
    <SnapEnableCfg>
     <!--req,the corresponding stucture is (NET_DVR_SNAPENABLECFG) -->
     <place < place < 
       <!--reg, whether support plate recognition??0-false??1-true -->
     <jpegPICSize min="64" max="8196"/>
         <!--req Jpeg size[64-8196]-->
       <frameFlip opt="noturn,turn"/>
            <!--req 0-noturn(no flip) 1-turn(flip)-->
       <flipAngle opt="0,90,180,270"/>
             <!--req angle of image: 0,90,180,270-->
       lightPhase min="0" max="360"/>
                <!--req phase, data range[0, 360]-->
       lightSyncPower opt="noSynchronized,Synchronized"/>
                  <!--req whether the signal lamp is synchronized with power supply??0-noSynchronized??1-Synchronized-->
       <frequency min="0" max="255"/>
```

```
<!--reg signal frequency-->
        <uploadSDEnable opt="false,true"/>
                      <!--reg whether auto upload SD picture: 0-false, 1-true-->
        <place < place < 
                        <!--req recognition mode parameter: 0-videoTrigger, 1-externalTrigger-->
        <uploadInfoFTP opt="false,true"/>
                          <!--reg whether upload the additional info of capture to FTP: 0-false, 1-true-->
        <autoFormatSD opt="false,true"/>
                            <!--req whether auto format SD card: 0-false, 1-true-->
    </SnapEnableCfg>
    <ITClOoutParam>
        <defaultStatus opt="lowlevel,highlevel"/>
      <!--reg IO default status: 0 - lowlevel??1 - highlevel-->
<IOoutStatus opt="lowlevel,highlevel,impulse"/>
        <!--req IO valid status: 0 - lowlevel,1 - highlevel,2 - impulse-->
<flashMode opt="video,post,illegal"/>
          <!--req flash work mode,described by bit: 0-work??1-not work, bit0 - video, bit1 - post,bit2 - illegal-->
<timeDelay min="" max=""/>
            <!--req IO valid contious time, unit: us-->
<aheadTime min="" max=""/>
             <!--reg output IO ahead time,unit: us-->
<dutyRate min="0" max="40"/>
                <!--req rate??[0,40%]-->
<detectBrightness opt="false,true"/>
                  <!--reg auto detect the brightness of enabled flash: 0-false, 1-true-->
<brightnessThreld min="0" max="100"/>
    <!--req brightness threld of flash, range:[0,100], flash when higher than threld-->
<flashLightEnable opt="false,true"/><!--req set flash time enable: 0-false, 1-true-->
<autoPlateBrightness opt="false,true"/>
        <ioWorkMode opt="flashlight,polarizer"/>
        <!--IO output port working mode: 0-Flash light, 1- Polarizer-->
</ITClOoutParam>
  <CameraSetUpCfg>
    <setupHeight min="0" max="65535"/><!--req setup height/-->
      <lensType opt="unKnown,8mm,12mm,16mm,25mm,35mm,50mm"/><!--reg lens type/-->
      <setupHeightUnit opt="M,CM"/>
        <!--req 0~M,1~CM-->
    <sceneDis min="0" max="65535"/><!--req the horizontal distance between the bottom of image and camera, unit:</p>
      <videoDetCoefficient min="" max=""/><!--req video test coefficient[0,300]-->
    <erectMethod opt="normalinstallation, sideinstallation"/><!--req, erect mode: 0- normal ??1- side -->
      <horFieldAngle min="" max=""/>
      <!-- The horizontal filed angle range [0??~360??]-->
      <verFieldAngle min="" max=""/>
      <!-- The vertical filed angle range [0??~360??]-->
  </CameraSetUpCfg>
      <PlcCfg>
        <PLCEnable opt="false,true"/>
        <!--req plate brightness compensation??default to enable????0-close??1-enable-->
```

```
<plateExpectBright min="0" max="100"/>
    <!--reg expectation brightness of plate,?? default to 50??, data range: [0, 100]-->
    <brightChangeEnable opt="false,true"/>
    <!--reg illumination variation??default to enable????0-close??1-enable -->
    <brightChangeThreld min="0" max="100"/>
    <!--req brightness change threld ?? default to 50????data range: [0, 100]-->
    <tradeOffFlash opt="false,true"/>
    <!--req whether consider influence of flash: 0 - no; 1 - yes(default), when use the flash compensation, 1- weaken
the enhancement effect of flash brightness, 0 - no -->
    <correctFactor min="0" max="100"/>
    <!--req correction factor, data range: [0,100], default it to 50 (restore the default value when swicth
tradeoff flash?? -->
    <loopStatsEn opt="false,true"/>
    <!--req brightness of coil, described by bit: 0- No statistical??1- statistical-->
    <PLCBrightOffSet min="0" max="100"/>
    <!--req sensitivity of plate brightness compensation(vitual coil mode valid only)??data range: 1- 100-->
   </PlcCfg>
   <CabinetAlarmParamCfg>
    <supportCabinetNum min="0" max="8"/>
    <cabinetNameLen min="0" max="32"/>
    <associateIO opt="1,2,3,4,0xff"/>
    <!--req 1-4??0xff?? 1-4: IO channel, 0xff- disable-->
    <cabinetState opt="lowlevel,hightlevel"/>
    <!--req 0- lowlevel, 1- highlevel-->
    <alarmIntervalTime min="1" max="60"/>
     <!--req data range: 1-60??uint: s -->
    </CabinetAlarmParamCfg>
   <ExceptionAlarmITC>
     <exceptionType opt="diskError,nicBroken,ipConflict,sensors,signalDetector"/>
     <alarmHandleType opt="monitor,audio,center,alarmout,picture,wirelesslight,uploadftp"/><!--req,
handle ,picture: capture and send mail-->
   </ExceptionAlarmITC>
   <ICRCFG>
    <autoCtrlTime>4</autoCtrlTime>
    <ICRPreset>2</ICRPreset>
     <switchType opt="no,auto,manual,time,algorithmAuto"/>
     <!--0 ~ Not switch, 1- Auto switch, 2~Manually switch,3~Scheduling switch??4~Auto-arithmetic-->
      <AlgorithmAutoSwitch>
        <detThreshold min="" max="" def=""/><!--Check the threshold, range[0~100], default:58-->
        <unBrightnessThreshold min="" max="" def=""/><!--Abnormal brightness, range[0~255],default:12 -->
      </AlgorithmAutoSwitch>
   </ICRCFG>
   <ITCFTP>
   <workMode opt="ftp1,ftp2"/><!--req 0-FTP1(main FTP)??1-FTP2( backupFTP)-->
   </ltcFtpTypeCond>
   <ItcFtpCfg>
   <enableFtp opt="true,false"/><!--req 0-false,1-true-->
   <addressType opt="ipaddress,domainname"/><!--req 0- actual ipv4 ipv6 address, 1-domain-->
```

```
<ftpPort min="" max=""/><!--req ftp port range-->
   <domainLen min="" max=""/><!--req domain length-->
   <userNameLen min="" max=""/><!--reg user name length-->
   <passwordLen min="" max=""/><!--req password length-->
   <dirLevel opt="rootdirectory,parentdirectory,childdirectory,threedirectory,fourdirectory"/>
     <!--req 0 = don't use directory??save in the root directory,1 = use level 1 directory, 2= use level 2 directory, 3 =
use level 3 directory, 4=use level 4 directory-->
   <uploadDataType opt="all,post,illegal"/><!--req 0-all,1- post,2-illegal(default to select all when use single FTP,
select post when use double FTP)-->
    <itemOrder
opt="devname,devno,devip,channelname,channelno,time,cardno,plateno,paltecolor,laneno,carspeed,picnumber,
           carnumber, speedlimit, illegal code, crossnumber, direction number"/>
   <delimiter opt="_"/><!--req separator??general: '_'-->
   <topDirMode
opt="deviceName,deviceNO,devicelP,monitor,time,timeday,violatetype,direction,place,channelName,channelNo,Lane
No,custom"/>
     <!--req 0x1 = use device name,0x2 = use device number,0x3 =use device IP??0x4=use monitor point,0x5=use
time(year month), 0x6=use time(year month day),
     0x7=violation type,0x8= direction,0x9=location,0xa=channel name,0xb=channel number,0xc=lane number;
0xff=automatic-->
   <subDirMode
opt="deviceName,deviceNO,deviceIP,monitor,time,timeday,violatetype,direction,place ,channelName,channelNo,Lane
No,custom"/>
   <threeDirMode
opt="deviceName,deviceNO,devicelP,monitor,time,timeday,violatetype,direction,place,channelName,channelNo,Lane
No.custom"/>
   <fourDirMode
opt="deviceName,deviceNO,deviceIP,monitor,time,timeday,violatetype,direction,place ,channelName,channelNo,Lane
No,custom"/>
   <topCustomDirLen min="" max=""/><!--reg customized length of level 1 directory-->
   <subCustomDirLen min="" max=""/><!--req customized length of level 2 directory -->
   <threeCustomDirLen min="" max=""/><!--req customized length of level 3 directory-->
   <fourCustomDirLen min="" max=""/><!--req customized length of level 4 directory-->
   </ITCFTP>
   <GPSDATACFG>
     <gpsDataMode opt="auto,manual"/>
     <!--Getting GPS data, 0-Auto??1-Manual-->
     <longitudeType opt="east,west"/><!--Longitude: 0- East longitude??1-West longitude-->
     <latitudeType opt="north,south"/><!--latitude: 0-South latitude??1-North latitude-->
     <Longitude>
       <degree min="0" max="180"/>
       <minute min="0" max="60"/>
       <sec min="0" max="60"/>
     </Longitude>
     <Latitude>
       <degree min="0" max="180"/>
       <minute min="0" max="60"/>
       <sec min="0" max="60"/>
     </Latitude>
```

```
</GPSDATACFG>
 </ITCAbility>
 <ITSAbility>
  <cameraAmount>
   <!--req, xs:integer, the maximum number of supported cameras-->
  </cameraAmount>
  <storeAmount>
   <!--req, xs:integer, the maximum amount of supported data storage-->
  </storeAmount>
  <ImageCombine>
   <enabled>true</enabled>
   <!--req, it supports picture mergence, no this node if not support-->
  </lmageCombine>
  <TrafficDataUpload>
   <UploadType1>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.1 (that is, the type supported by intelligent traffic camera,
COMM_UPLOAD_PLATE_RESULT of arming mode), no this node if not support-->
     </UploadType1>
   <UploadType2>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2 (that is, the type supported by ITS, COMM ITS PLATE RESULT of
listening mode), no this node if not support-->
     </UploadType2>
   <UploadType3>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2 (that is, the type supported by intelligent traffic camera,
COMM_ITS_PLATE_RESULT of arming mode), no this node if not support-->
     </UploadType3>
  </TrafficDataUpload>
  <VideoLocalRecord>
   <enabled>
    true<!--reg, it supports local recording, no this node if not support-->
   </enabled>
  </VideoLocalRecord>
  <PicLocalStore>
   <enabled>
    true<!--req, it supports local storage of pictures, no this node if not support-->
   </enabled>
  </PicLocalStore>
  <PlateRecognise>
   <enabled>
   true<!--req, whether it supports license plate recognition, no this node if not support-->
   </enabled>
   <regionType opt="rect,polygon"/>
   <!-- the supported types of license plate recognition area-->
   <plateTypeopt opt="standard92,standard92,armedPolice,police,standard92Back,embassy,agricultural,moto"/>
   <plateColor opt="blue,yellow,white,black,green"/>
```

```
<vehicleType opt="small,big"/>
   <bodyworkColor opt="white,silver,gray,black,red,darkblue,blue,yellow,green,brown,pink,violet"/>
  </PlateRecognise>
  <imageOverlayString>
   <mode1>
    <!--opt, the character overlay on the picture of original intelligent traffic camera, no this node if not support-->
    <overlayStringType
opt="monitor,time,speed,speedRatio,speedLimit,plate,carColor,carLength,carType,laneNum,milliSecond,illegalInfo,red
OnTime"/>
    <!--opt, monitoring site, time, speed, overspeed ratio, speed limit sign, license plate, color of vehicle, length of
vehicle,
    vehicle type, traffic lane ID, millisecond, violation information, the time that the red light has been lighted-->
   </mode1>
   <mode2>
    <!--opt, the character overlay on the picture of ITS or camera of ITS, no this node if not support-->
    <overlapType
opt="monitor,site,roadNum,instrumentNum,directionNum,directionDes,laneNum,laneDes,capTime,capTimeMilli,plate
,carColor,carLength,carType,carBrand,speed,speedRatio,speedLimit,illegalDes,redStart,redStop,redOnTime,securityCod
e,capCode"/>
    <!--opt, monitoring site, location, intersection ID, device ID, direction ID, direction description, lane ID, lane
description,
    the time of capturing, the time of capturing(millisecond), license plate number, color of vehicle, length of vehicle,
vehicle type,
    vehicle brands, speed, overspeed ratio, speed limit sign, violation information, the starting time of red light, the
ending time of
    red light, the time that the red light has been lighted, security code, capturing ID-->
    <itemLength min="0" max=""/>
    <!--opt, length of character overlay-->
    <changeLineNum min="0" max="10"/>
     <!--opt, the number of line breaks-->
     <spaceNum min="0" max="255"/>
     <!--opt, the number of spaces-->
     linePercent min="0" max="100"/>
     <!--opt, percentage of overlay line-->
     <itemsStlye opt="horizontal,vertical"/>
     <!--opt, overlay style: horizontal, vertical-->
     <startPosTop min="0" max="2448"/>
     <!--opt, the upper coordinate of starting point-->
     <startPosLeft min="0" max="2448"/>
     <!--opt, the left coordinate of starting point-->
     <charStyle opt="SongTi,WeiTi"/>
     <!--opt, font type: standard typeface of Chinese, typeface of Wei-->
     <charSize opt="16*16,32*32,48*48,64*64"/>
     <!--req, font size: 0-32*32(Chinese)/16*32(English), 1-64*64(Chinese)/32*64(English), 2-48*48 -->
     <charInterval min="0" max="16"/>
     <!--opt, character spacing-->
     <ForeClorRGB>
      <enabled>
       true</enabled>
         <!--opt, whether it supports to adjust RGB value of foreground color, no this node if not support-->
       </ForeClorRGB>
     <BackClorRGB>
```

```
<enabled>
       true</enabled>
        <!--opt, whether it supports to adjust RGB value of background color, no this node if not support-->
       </BackClorRGB>
     <ColorSelfAdapt>
      <enabled>
       true</enabled>
        <!--opt, whether the color is adaptive, no this node if not support-->
       </ColorSelfAdapt>
    </mode2>
  </imageOverlayString>
  <TPSAlarm>
   <!--req, whether it supports uploading information of traffic counting, no this node if not support-->
   <UploadType1>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2 (it supports the uploading mode no.2(that is, the type supported
by ITS, COMM_ITS_TRAFFIC_COLLECT of listening mode), no this node if not support-->
     </UploadType1>
   <UploadType2>
    <enabled>
     true</enabled>
      <!--req, it supports the uploading mode no.2 (that is, the type supported by intelligent traffic camera,
COMM ITS TRAFFIC COLLECT of arming mode, no this node if not support-->
     </UploadType2>
  </TPSAlarm>
  <CameraSetup>
   <!--req, it supports camera mounting configuration, no this node if not support-->
   <enabled>
    true</enabled>
  </CameraSetup>
 <!--req,park project -->
  <LampCtrlInfo>
   <lampCtrlMode opt="inlayLamp,externalLamp"/>
   <!--req, lamp control mode??1-internal lamp??2-external lamp-->
   <ctrlChannelIndex min="" max=""/>
   <!--req alternate control channel number-->
   <inlayLampCtrlMode>
    <!--reg internal lamp control mode -->
    <lampStateCtrlNum min="" max=""/>
    <!--req range of park space supported-->
    <parkInlayInfo>
     <enable opt="false,true"/>
     <!--req,whether enable, true-enable, false-disable-->
     <flicker opt="false,true"/>
     <!--req,whether flash, true-flash??false- no flash-->
     <lampColor opt="close,red,green,yellow,blue,magenta,cyan,white"/>
     <!--req 0- none 1-red 2-green 3-yellow 4-blue 5-pink 6-cyan 7-white-->
    </parkInlayInfo>
   </inlayLampCtrlMode>
   <externalLampCtrlMode>
    <!--req external lamp control mode -->
```

```
<maxParkNum min="" max=""/>
    <!--reg park space number-->
    <parkInfoType opt="normalParkIOstate,normalNoParkIOstate,specialParkIOstate,noSpecialParkIOstate"/>
     <parkExternalSubinfo>
      <enable opt="false,true"/>
      <!--req,whether enable, true-enable??false-disable-->
      <flicker opt="false,true"/>
      <!--req,whether flash, true-flash??false-no flash-->
      <IOstate opt="lowLevel,hightLevel"/>
      <!--req,level, 0-low level??1-high level(valid external lamp)-->
     </parkExternalSubinfo>
    </externalLampCtrlMode>
  </LampCtrlInfo>
  <parkSpaceAttributeParam>
   <maxParkNum min="" max=""/>
   <!--req park number-->
   <parkSpaceInfo>
    <parkSpaceAttribute opt="normalPack,specialPack"/>
    <!-- 0~normal pack 1~special pack-->
   </parkSpaceInfo>
  </parkSpaceAttributeParam>
  <lampExternalCfg>
   <enable opt="false,true"/>
   <!--reg,whethe enable, true-enable??false-disable-->
   <lampState>
    <flicker opt="false,true"/>
    <!--req,whether flash, true-flash??false-no flash-->
    <IONo opt="IO1,IO2,IO3"/>
    <!--req 1~IO1,2~IO2,4~IO3 -->
   </lampState>
  </lampExternalCfg>
  <compelCaptureCfg>
   <parkIndex opt="parkPlace1,parkPlace2,parkPlace3,parkPlace4"/>
   <!-- park number from left to right 1,2,3,4-->
  </compelCaptureCfg>
  <externalControlAlarm>
   <lampState>
    <flicker opt="false,true"/>
    <!--req,whether flash, true-flash??false- no flash-->
    <IONo opt="IO1,IO2,IO3"/>
    <!--req 1~IO1,2~IO2,4~IO3 -->
   </lampState>
   <externalBeginTime>true</externalBeginTime>
   <!--req whether support external begin time uploading -->
  </externalControlAlarm>
<ManualSnap>
<!-- reg, 3.7 added-->
   <osdEnable>true</osdEnable>
```

```
<!-- req, capture OSD supports force closing-->
<laneNo min="1" man="6" />
    <!-- req, vehicle lane No.-->
    </ManualSnap>
    </ITSAbility>
</ITDeviceAbility>
```

Enter an example to illustrate your reference here (optional).

7.43 XML LPListAuditSearchDescription

LPListAuditSearchDescription message in XML format

```
<LPListAuditSearchDescription version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<searchID><!--req, xs: string, search ID, which is used to check whether the current search requester is the same as the previous one. If they are the same, the search record will be stored in the device to speed up the next search-->
<searchID>
<searchResultPosition><!--req, xs: integer, the end position of search result in result list--></searchResultPosition>
<maxResults><!--req, xs: integer, the maximum number of results obtained by this search. Up to 2000 results can be obtained by each search--></maxResults>
<type><!--optional, xs:string, license plate type: "blackList" (license plate in blocklist), "whitelist" (license plate in allowlist), "allVehicleList" (license plate in all lists), "otherVehicleList" (license plate in other lists)--></type>
<LicensePlate><!--optional, xs:string, card No.--></cardNo>
<cardNo><!--optional, xs:string, card No.--></cardNo>
<cardID><!--optional, xs:string, card ID (Wiegand protocol), the maximum string size is 9 bytes--></cardID>
</LPListAuditSearchDescription>
```

7.44 XML LPListAuditSearchResult

LPListAuditSearchResult message in XML format

```
<LPListAuditSearchResult version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<searchID><!--req, xs: string--></searchID>
<responseStatus></responseStatus>
<responseStatusStrg></responseStatusStrg>
<numOfMatches><!--req, xs: integer--></numOfMatches>
<totalMatches><!--req, xs: integer--></totalMatches>
 <LicensePlateInfoList>
  <LicensePlateInfo>
   <id><!--req, xs: string --></id>
   <LicensePlate><!--opt, xs: string--></LicensePlate>
   <type><!--opt, xs: string, "blackList, whitelist, all VehicleList, other VehicleList"--></type>
   <createTime><!--opt, xs: string, time in ISO8601 format--></createTime>
   <direction><!--opt, xs: string, "forward,reverse,unknown"--></direction>
   <laneNo><!--opt, xs: integer, lane No.--></laneNo>
   <plateCategory><!--optional, xs:string, license plate type--></plateCategory>
   <country><!--optional, xs:string, country/region--></country>
   <area><!--optional, xs:integer, area--></area>
```

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```
<effectiveTime><!--optional, xs:date, effective date of the blocklist and allowlist--></effectiveTime>
  <countryIndex><!--optional, xs:integer, country/region index--></countryIndex>
  <cardID><!--optional, xs:string, card ID (Wiegand protocol), the maximum string size is 9 bytes--></cardID>
  <effectiveDateTime><!--optional, xs:datetime, effective date and time of the blocklist and allowlist--></
effectiveDateTime>
  <effectiveStartDate><!--optional, xs:string, start date of the effective period--></effectiveStartDate>

  </LicensePlateInfoList>
  </LPListAuditSearchResult>
```

7.45 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>
```

7.46 XML_TrafficChannelCap

Traffic channel capability message in XML format

```
<TrafficChannelCap version="1.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
        <deviceTypeSupport>
        <!--optional, xs: integer, device type: 0-video monitoring, 1-loop detection, 2-video analysis, 3-reserved, 4-video analysis (event + traffic enforcement + traffic data collection), 5-video analysis + capture (event + traffic enforcement + traffic data collection), 6-video structurization, 7-speed dome for dynamic tracking and capture, 8-speed dome for non-dynamic tracking and capture-->
```

```
</deviceTypeSupport>
 <isPTZSupport><!--optional, xs:boolean, whether it supports configuring PTZ type, PTZ address, PTZ control speed,
and zooming speed--><isPTZSupport>
 <isEvidenceGettingSupport>
 <!--optional, xs: boolean, whether it supports violation enforcement, setting scenes, and scene auto-switch-->
 </isEvidenceGettingSupport>
 <isBasicSupport>
  <!--optional, xs: boolean, whether it supports setting basic parameters-->
 </isBasicSupport>
 <isImageMergeSupport>
  <!--optional, xs: boolean, whether it supports picture overlay-->
 </isImageMergeSupport>
 <isOverlapSupport>
  <!--optional, xs: boolean, whether it supports text overlay-->
 </isOverlapSupport>
 <isEdfAlgSupport>
  <!--optional, xs: boolean, whether it supports setting analysis parameters-->
 </isEdfAlgSupport>
 <isAutoTraceSupport>
  <!--required, xs: boolean, whether it supports auto-tracking-->
 </isAutoTraceSupport>
 <isEdfManualItsCapSupport>
  <!--optional, xs: boolean, whether it supports setting manual enforcement parameters-->
 </isEdfManualItsCapSupport>
 <isViolationTypeStdSupport>
 <!--optional, xs: boolean, whether it supports violation code-->
 </isViolationTypeStdSupport>
 <isEDFRemoteHostSupport>
  <!--optional, xs: boolean, whether it supports remote host-->
 </isEDFRemoteHostSupport>
 <isANRSupport>
  <!--optional, xs: boolean, whether it supports ANR-->
 </isANRSupport>
 <isvoiceTriggerSupport>
  <!--optional, xs: boolean, whether it supports audible linkage-->
 </isvoiceTriggerSupport>
 <uploadDataTypesSupport>
  <!--optional, xs: string, uploaded data types:
"illegalParking,wrongDirection,crossLane,congestion,parkingEvidence,crossLaneEvidence,wrongDirectionEvidence,lane
Change,turnRound,laneChangeEvidence,turnRoundEvidence,vehicleexist,vehicleexistEvidence,edfManualEvidence,obj
ectDroppedDown,smoke"-->
</uploadDataTypesSupport>
 <aidTypeSupport>
  <!--optional, xs:string, traffic incident types:
"illegalParking,wrongDirection,crossLane,laneChange,turnRound,congestion,vehicleexist,pedestrian,objectDroppedDo
wn,smoke,edfManual,trafficAccident,construction,roadBlock,abandonedObject,fogDetection"-->
 </aidTypeSupport>
 <isIntellMonitorSupport>
 <!--optional, xs: boolean, whether it supports smart monitoring-->
 </isIntellMonitorSupport>
 <isVCRSupport>
  <!--optional, xs: boolean, whether it supports vehicle statistics-->
```

```
</isVCRSupport>
 <isEdfManualTrackSupport>
  <!--optional, xs: boolean, whether it support manual tracking and enforcement-->
 </isEdfManualTrackSupport>
 <videoEvidenceTypeSupport
opt="illegalParking,wrongDirection,crossLane,laneChange,turnRound,vehicleexist,edfManualEvidence">
  <!--optional, xs: string, uploaded video evidence types-->
 </videoEvidenceTypeSupport>
 <isRecordParamSupport>
  <!--optional, xs: boolean, whether it supports setting recording parameters-->
 </isRecordParamSupport>
 <AIDEventSupport opt="abandonedObject, pedestrian, congestion, roadBlock, construction, trafficAccident,
fogDetection, wrongDirection, illegalParking, SSharpDriving, lowSpeed, dragRacing">
  <!--optional, xs: string, supported traffic incident type: "abandonedObject"-objects dropped down, "pedestrian"-
pedestrian, "congestion"-congestion, "roadBlock"-roadblock, "construction"-construction, "trafficAccident"-traffic
accident, "fogDetection"-fog, "wrongDirection"-wrong-way driving, "illegalParking"-illegal parking, "SSharpDriving"-
slalom driving, "lowSpeed"-driving in low speed, "dragRacing"-street racing-->
 </AIDEventSupport>
 <TFSEventSupport opt="illegalParking, wrongDirection, crossLane, laneChange, vehicleExist, turnRound,
parallelParking, notKeepDistance, notSlowZebraCrossing, overtakeRightSide, lowSpeed, dragRacing,
changeLaneContinuously, SSharpDriving, largeVehicleOccupyLine, jamCrossLine">
  <!--optional, xs: string, supported enforcement event type: "illegalParking"-illegal parking, "wrongDirection"-wrong-
way driving, "crossLane"-driving on the lane line, "laneChange"-illegal lane change, "vehicleExist"-motor vehicle on
non-motor vehicle lane, "turnRound"-illegal U-turn, "parallelParking"-parallel parking, "notKeepDistance"-not keeping
vehicle distance, "notSlowZebraCrossing"-not slowing down at zebra corssing, "overtakeRightSide"-overtaking on the
right, "lowSpeed"-driving in low speed, "dragRacing"-street racing, "changeLaneContinuously"-continuous lane
change, "SSharpDriving"-slalom driving, "largeVehicleOccupyLine"-lane occupation by large-sized vehicle,
"jamCrossLine"-queue jumping-->
 </TFSEventSupport>
 <isVehicleStatisticsSupport>
  <!--optional, xs: boolean, whether it supports setting parameters for traffic data collection-->
 </isVehicleStatisticsSupport>
 <isLaneRuleSupport>
  <!--optional, xs: boolean, whether it supports setting lane rules-->
 </isLaneRuleSupport>
 <isSupportPlateListEvidence>
  <!--optional, xs: boolean, whether it supports setting parameters for blocklist and allowlist ANPR enforcement-->
 </isSupportPlateListEvidence>
 <isSupportMixedTargetDetection>
  <!--optional, xs: boolean, whether it supports multi-target-type detection-->
 </isSupportMixedTargetDetection>
 <isSupportVideoOverlays>
  <!--optional, xs: boolean, whether it supports overlaying information on video-->
 </isSupportVideoOverlays>
 <isSupportAddrInfo>
  <!--optional, xs:boolean, whether it supports overlaying address information-->
 </isSupportAddrInfo>
 <VehiclePositionControl><!--optional, whether it supports vehicle direction control-->
  license min="0" max="16"><!--required, xs:string, license plate number--></license>
  <intervalTime min="0" max="65535" def="1"><!--required, xs:integer, upload interval, unit: s, by default it is 1--></
intervalTime>
 </VehiclePositionControl>
```

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<isSupportLicensePlateExposure><!--optional, xs:boolean, whether it supports license plate exposure, return "true" if it supports, and this node will not be returned if the device does not supports this function-->
isSupportLicensePlateExposure>

<isSupportFiltration><!--optional, xs:boolean, whether it supports filtering duplicated license plate, return "true" if it supports, and this node will not be returned if the device does not support the function--></isSupportFiltration></TrafficChannelCap>

Example

```
TrafficChannelCap Message Example
```

```
<TrafficChannelCap version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
<isEvidenceGettingSupport>false</isEvidenceGettingSupport>
<isBasicSupport>true</isBasicSupport>
<isImageMergeSupport>true</isImageMergeSupport>
<isOverlapSupport>true</isOverlapSupport>
<isEdfAlgSupport>true</isEdfAlgSupport>
<isEdfManualItsCapSupport>false</isEdfManualItsCapSupport>
<isEDFRemoteHostSupport>true</isEDFRemoteHostSupport>
<isANRSupport>true</isANRSupport>
<isvoiceTriggerSupport>false</isvoiceTriggerSupport>
<uploadDataTypesSupport></uploadDataTypesSupport>
<aidTypeSupport>wrongDirection,turnRound,vehicleexist,congestion,crossLane,laneChange,pedestrian,roadBlock,aba
ndonedObject,construction,trafficAccident,fogDetection</aidTypeSupport>
<isIntellMonitorSupport>false</isIntellMonitorSupport>
<isVCRSupport>false</isVCRSupport>
<isEdfManualTrackSupport>false</isEdfManualTrackSupport>
<videoEvidenceTypeSupport></videoEvidenceTypeSupport>
<TFSEventSupport>wrongDirection,turnRound,vehicleexist,crossLane,laneChange</TFSEventSupport>
<AIDEventSupport>congestion,pedestrian,roadBlock,abandonedObject,construction,trafficAccident,fogDetection
AIDEventSupport>
<isVehicleStatisticsSupport>true</isVehicleStatisticsSupport>
<isLaneRuleSupport>true</isLaneRuleSupport>
<isSupportPlateListEvidence>true</isSupportPlateListEvidence>
```

7.47 XML_VehicleDetectCfg

</TrafficChannelCap>

Vehicle detection configuration message in XML format

```
<VehicleDetectCfg version="2.0" xmlns="http://www.isapi.org/ver20/XMLSchema">
        <enabled><!--required, xs:boolean--></enabled>
        <nation><!--optional, xs:string, "ER"-CIS Region, "EU"-Europe Region, "ME"-Middle East, "AP"-Asia Pacific,
"AfricaAndAmerica"-Africa and America, "All"-All Region--></nation>
        <stateOrProvince> <!--optional, xs:string--> </stateOrProvince>
        <bestDetectionSize> <!--optional, xs:string--> </bestDetectionSize>
        <VehicleDetectSceneList>
        <VehicleDetectSceneList>

        <PlateDetectionRegion>
```

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```
<minWidth> <!--optional, xs:interger--> </minWidth>
   <maxWidth> <!--optional, xs:interger--> </maxWidth>
  </PlateSize>
  <plateMode><!--optional,xs:string, "small,large", License plate mode--></plateMode>
 </PlateDetectionRegion>
 <RodeType><!--optional-->
  <type><!--optional, xs:string,"entrance,city,custom,alarmInput"--> </type>
  <Custom><!--dependent, custom-->
   <delayTime><!--optional, xs:interger,[0,15000]--></delayTime>
   <delayTimeUnit><!--optional, xs:string, "ms"--></delayTimeUnit>
  </Custom>
 </RodeType>
<countryIndex><!--optional, xs:integer, country/region No.--></countryIndex>
<!--compatibility between countryIndex and CRIndex-->
 <!--device: both fields will be returned, when the value of CRIndex is smaller than or equal to 255, the value of
countryIndex is the same as that of CRIndex; when the value of CRIndex is larger than 255, the value of countryIndex
is 253 (the field countryIndex is invalid)-->
<!--integration flow: for new users, CRIndex has higher priority over countryIndex and the field countryIndex is used
only when countryIndex does not exist; when the value of countryIndex is 253, additional logic processing should be
adopted to use CRIndex field-->
<CRIndex><!--optional, xs:integer, country/region No., when the value is 0, it indicates that no country/region is
specified--></CRIndex>
</VehicleDetectCfg>
```

Appendix A. Appendixes

A.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_SSDFOR_ 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.

A.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	0x300000C	Too large picture size.
clearCacheError	0x300000D	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.

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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).
unsupportedPollingIntervalTim e	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).
engineUnLoadingModelPackag e	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.

StatusCode=4

Sub Status Code	Error Code	Description
notSupport	0x40000001	Not supported.
lowPrivilege	0x40000002	No permission.
badAuthorization	0x40000003	Authentication failed.
methodNotAllowed	0x40000004	Invalid HTTP method.
notSetHdiskRedund	0x40000005	Setting spare HDD failed.
invalidOperation	0x40000006	Invalid operation.
notActivated	0x40000007	Inactivated.
hasActivated	0x40000008	Activated.
certificateAlreadyExist	0x40000009	The certificate already exists.
operateFailed	0x400000F	Operation failed.
USBNotExist	0x40000010	USB device is not connected.
upgradePackageMoret han2GB	0x40001000	Up to 2GB upgrade package is allowed to be uploaded.
IDNotexist	0x40001001	The ID does not exist.
interfaceOperationErro r	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.
backupnodeNotAllowe Log	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.
exportItemsExceedLimi t	0x40001010	No more items can be exported.
noFiles	0x40001011	The file does not exist.
beingExportedByAnoth erUser	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.
unitGetNetworkInfoErr or	0x4000101E	Getting the network information of data analysis server failed
unitSetNetworkInfoErr or	0x4000101F	Setting the network information of data analysis server failed

Sub Status Code	Error Code	Description
setSmartNodeInfoError	0x40001020	Setting node information failed.
setUnitNetworkInfoErr or	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.
uintVersionMismatche d	0x40001026	Data analysis server version mismatches.
deviceMOdelMismatch ed	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.
getClientAddedNodeFa iled	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.
unitLinksNoStorageNo de	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.
updateTypeUnmatche d	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.
userCannotCreatAdmi n	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.
monitorCreatRootFaile d	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.
searchSerConnectFaile d	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.
serviceNumberReache sLimit	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 clusterDo not operate.
clusterUninstall	0x4000106F	Reseting clusterDo 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.
clusterVirlpError	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&mainIPnotSame NetSegment	0x4000107C	The virtual IP address is not in the same network segment with the IP address of main/sub node.
getNodeDispatchInfoFa iled	0x4000107D	Getting node scheduler information failed.

Sub Status Code	Error Code	Description
unableModifyManage mentNetworkIP	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.
ArmingSearchTimeErro r	0x40001089	Invalid search time period.
armingRelationshipRea chesLimit	0x4000108A	No more relation can be created.
duplicateAarmingNam e	0x4000108B	The relation name already exists.
noMoreArmingListAdd ed	0x4000108C	No more blocklist library can be armed.
noMoreCamerasAdded	0x4000108D	No more camera can be armed.
noMoreArmingListAdd edWithCamera	0x4000108E	No more library can be linked to the camera.
noMoreArmingPeriodA dded	0x4000108F	No more time period can be added to the arming schedule.
armingPeriodsOverlap ped	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
searchByPictureTimed Out	0x40001094	Searching picture by picture timeout. Search again.
comparisonTimeRange Error	0x40001095	Comparison time period error.
selectMonitorNumber UpperLimit	0x40001096	No more monitoring point ID can be filtered.
noMoreComparisonTas ksAdded	0x40001097	No more comparison task can be executed at the same time.
GetComparisonResultF ailed	0x40001098	Getting comparison result failed.
comparisonTypeError	0x40001099	Comparison type error.
comparisonUnfinished	0x4000109A	The comparison is not completed.
facePictureModelInvali d	0x4000109B	Invalid face model.
duplicateLibraryName.	0x4000109C	The library name already exists.
noRecord	0x4000109D	No record found.
countingRecordsFailed.	0x4000109E	Calculate the number of records failed.
getHumanFaceFrameF ailed	0x4000109F	Getting face thumbnail from the picture failed.
modelingFailed.	0x400010A0	Modeling face according to picture URL failed.
1V1FacePictureCompar isonFailed	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 .
beyondConcurrentLimi t	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.
queryHistoryVideoFaile d	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.
configStructuredAddre ssFailed	0x400010BA	Configuring IP address of structured server failed.
configPictureServerAd dressFailed	0x400010BB	Configuring IP address of picture storaged server failed.
storageServiceIPNotExi st	0x400010BD	The storage server IP address does not exist.
syncBackupDatabaseFa iled	0x400010BE	Synchronizing sub database failed. Try again.
syncBackupNTPTimeFa iled	0x400010BF	Synchronizing NTP time of sub server failed.
clusterNotSelectLoopb ackAddress	0x400010C0	Loopbacl address is not supported by the main or sub cluster.

Sub Status Code	Error Code	Description
addFaceRecordFailed	0x400010C1	Adding face record failed.
deleteFaceRecordFaile d	0x400010C2	Deleting face record failed.
modifyFaceRecordFaile d	0x400010C3	Editing face record failed.
queryFaceRecordFailed	0x400010C4	Searching face record failed.
faceDetectFailed	0x400010C5	Detecting face failed.
libraryNotExist	0x400010C6	The library does not exist.
blackListQueryExportin g	0x400010C7	Exporting matched blocklists.
blackListQueryExporte d	0x400010C8	The matched blocklists are exported.
blackListQueryStopExp orting	0x400010C9	Exporting matched blocklists is stopped.
blackListAlarmQueryEx porting	0x400010CA	Exporting matched blocklist alarms.
blackListAlarmQueryEx ported	0x400010CB	The matched blocklists alarms are exported.
blackListAlarmQuerySt opExporting	0x400010CC	Exporting matched blocklist alarms is stopped.
getBigDataCloudAnalys isFailed	0x400010CD	Getting big data cloud analytic information failed.
setBigDataCloudAnalys isFailed	0x400010CE	Configuring big data cloud analytic failed.
submitMapSearchFaile d	0x400010CF	Submitting search by picture task failed.
controlRelationshipNot Exist	0x400010D0	The relation does not exist.
getHistoryAlarmInfoFai led	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.
sesssionUserReachesLi mit	0x400010EC	No more user can log in via session.
ISO 8601TimeFormatError	0x400010ED	Invalid ISO8601 time format.
cluster Dissolution Faile d	0x400010EE	Deleting cluster failed.
getServiceNodeInfoFail ed	0x400010EF	Getting service node information failed.
getUPSInfoFailed	0x400010F0	Getting UPS configuration information failed.
getDataStatisticsRepor tFailed	0x400010F1	Getting data statistic report failed.
getDisplayConfigInfoFai led	0x400010F2	Getting display configuration failed.
namingAnalysisBoardN otAllowed	0x400010F3	Renaming analysis board is not allowed.
onlyDrawRegionsOfCo nvexPolygon	0x400010F4	Only drawing convex polygon area is supported.
bigDataServerRespons eInfoParseFailed	0x400010F5	Parsing response message of big data service failed.
bigDataServerReturnFa iled	0x400010F6	No response is returned by big data service.
microVideoReturnFaile d	0x400010F7	No response is returned by micro video cloud service.
transcodingServerRetu rnFailed	0x400010F8	No response is returned by transcoding service.
UPSServerReturnFailed	0x400010F9	No response is returned by UPS monitoring service.
forwardingServer ReturnFailed	0x400010FA	No response is returned by forwarding service.
storageServer ReturnFailed	0x400010FB	No response is returned by storage service.

Sub Status Code	Error Code	Description
cloudAnalysisServerRet urnFailed	0x400010FC	No response is returned by cloud analytic service.
modelEmpty	0x400010FD	No model is obtained.
mainAndBackupNodeC annotModifyManagem entNetworkInterfaceIP	0x400010FE	Editing the management interface IP address of 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.
setCloudAnalsisDefault ProvinceFailed	0x40001102	Setting default province of cloud analytic service failed.
InspectionAreasNumbe rExceedLimit	0x40001103	No more detection regions can be added.
picturePixelsTooLarge	0x40001105	The picture resolution is too high.
picturePixelsTooSmall	0x40001106	The picture resolution is too low.
storageServiceIPEmpty	0x40001107	The storage server IP address is required.
bigDataServerRequestI nfoBuildFail	0x40001108	Creating request message of big data service failed.
analysiTimedOut	0x40001109	Analysis time out.
high- performanceModeDisa bled.	0x4000110A	Please enable high-performance mode.
configuringUPSMonito ringServerTimedOut	0x4000110B	Configurating the UPS monitoring server time out. Check IP address.
cloudAnalysisRequestI nformationBuildFailed	0x4000110C	Creating request message of cloud analytic service failed.
cloud Analysis Response Information Parse Failed	0x4000110D	Parsing response message of cloud analytic service failed.
all Cloud Analysis Interface Failed	0x4000110E	Calling API for cloud analytic service failed.
cloud Analysis Model Compare Failed	0x4000110F	Model comparison of cloud analytic service failed.

Sub Status Code	Error Code	Description
cloudAnalysisFacePictu reQualityRatingFailed	0x40001110	Getting face quality grading of cloud analytic service failed.
cloudAnalysisExtractFe aturePointsFailed	0x40001111	Extracting feature of cloud analytic service failed.
cloudAnalysisExtractPr opertyFailed	0x40001112	Extracting property of cloud analytic service failed.
getAddedNodeInformat ionFailed	0x40001113	Getting the added nodes information of data analysis server failed.
noMoreAnalysisUnitsA dded	0x40001114	No more data analysis servers can be added.
detectionAreaInvalid	0x40001115	Invalid detection region.
shieldAreaInvalid	0x40001116	Invalid shield region.
noMoreShieldAreasAd ded	0x40001117	No more shield region can be drawn.
onlyAreaOfRectangleS hapeAllowed	0x40001118	Only drawing rectangle is allowed in detection area.
numberReachedLlimit	0x40001119	Number reached the limit.
wait1~3MinutesGetIPAf terSetupDHCP	0x4000111A	Wait 1 to 3 minutes to get IP address after configuring DHCP.
plannedTimeMustbeH alfAnHour	0x4000111B	Schedule must be half an hour.
oneDeviceCannotBuild Cluster	0x4000111C	Creating main and backup cluster requires at least two devices.
updatePackageFileNot Uploaded	0x4000111E	Upgrade package is not uploaded.
highPerformanceTasks NotSupportDrawingDe tectionRegions	0x4000111F	Drawing detection area is not allowed under high-performance mode.
controlCenterIDDoesN otExist	0x40001120	The control center ID does not exist.
regionIDDoesNotExist	0x40001121	The area ID does not exist.
licensePlateFormatErro r	0x40001122	Invalid license plate format.

Sub Status Code	Error Code	Description
managementNodeDoe sNotSupportThisOperat ion	0x40001123	The operation is not supported.
searchByPictureResour ceNotConfiged	0x40001124	The conditions for searching picture by picture are not configured.
videoFileEncapsulation FormatNotSupported	0x40001125	The video container format is not supported.
videoPackageFailure	0x40001126	Converting video container format failed.
videoCodingFormatNot Supported	0x40001127	Video coding format is not supported.
monitorOfDeviceArmin gdeleteArmingInfo	0x40001129	The camera is armed. Disarm it and try again.
getVideoSourceTypeFai led	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.
addingFailedVersionMi smatches	0x40001130	Adding failed. The device version mismatches.
theInformationReturne dAfterCloudAnalysisIsE mpty	0x40001131	No response is returned by the cloud analytic service.
selectinglpAddressOfH ostAndSpareNodeFaile dCheckTheStatus	0x40001132	Setting IP address for main node and backup node failed. Check the node status.
theSearchIdDoesNotEx ist	0x40001133	The search ID does not exist.
the Synchronization IdD oes Not Exist	0x40001134	The synchronization ID does not exist.
the UserId Does Not Exist	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.
the Areald Does Not Exist	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.
the Taskls Not Dispatche d Orlt Is Updating	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
the Number Of Matched Results Should Be Larger Than 0	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
the Cloud Analytics Is Interrupted	0x4000115D	The operation of cloud analytic serice is interrupted.
theServiceIsNotReady	0x4000115E	The service is not ready.
searchingForExternalA piFailed	0x4000115F	Searching external interfaces failed.
noOnlineNode	0x40001160	No node is online.
noNodeAllocated	0x40001161	No allocated node.
noMatchedList	0x40001162	No matched list.
allocatingFailedTooMa nyFacePictureLists	0x40001163	Allocation failed. Too many lists of big data service.
searchIsNotCompleted SearchAgain	0x40001164	Current searching is not completed. Search again.
allocatingListIsNotCom pleted	0x40001165	Allocating list is not completed.
searchingForCloudAnal yticsResultsFailed	0x40001166	Searching cloud analytic serice overtime.
noDataOfTheCurrentLi braryFound	0x40001167	No data in the current library. Make sure there is data in the Hbase.
noFacePictureLibraryIs Armed	0x40001168	No face picture library is armed for big data service.
no Available Data Slicing Version Information Ar mFirst And Slice The Data	0x40001169	Invalid standard version information.
duplicatedOperationDa taSlicingIsExecuting	0x4000116A	Slicing failed. Duplicated operation.
slicinDataFailedNoArm edFacePictureLibrary	0x4000116B	Slicing failed. No arming information in the face big data.
GenerateBenchmarkFil eFailedSlicingAgain	0x4000116C	Generating sliced file failed. Slice again.
NonprimaryNodelsPro hibitedFromSlcingData	0x4000116D	Slicing is not allowed by the backup node.
NoReadyNodeToCluste rServers	0x4000116E	Creating the cluster failed. No ready node.

Sub Status Code	Error Code	Description
NodeManagementServ iceIsOffline	0x4000116F	The node management server is offline.
the Camera (s) Of The Control Center Are Already Armed. Disarm Them First	0x40001170	Some cameras in control center are already armed. Disarm them and try again.
the Camera (s) Of The Are a Are Already Armed. Dis arm Them First	0x40001171	Some cameras in this area are already armed. Disarm them and try again.
configuringHigh- frequencyPeopleDetect ionFailed	0x40001172	Configuring high frequency people detection failed.
searchingForHigh- frequencyPeopleDetect ionLogsFailed.	0x40001173	Searching detection event logs of high-frequency people detection failed.
gettingDetailsOfSearch edHigh- frequencyPeopleDetect ionLogsFailed.	0x40001174	Getting the search result details of frequently appeared person alarms failed.
the Armed Cameras Alre ady Exist In The Control C enter	0x40001175	Some cameras in control center are already armed.
disarmingFailedTheCa meralsNotArmed	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.
analysisServicesDoNot Support	0x4000117B	Not supported.
commandAndDispatch ServiceError	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.
the Taskls Not Complete 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.
associatedFaceLibNum OverLimit	0x40001279	Maximum number of linked face picture libraries reached.
noMorePeopleNumCh angeRulesAdded	0x4000128A	Maximum number of people number changing rules reached.
noMoreViolentMotion RulesAdded	0x4000128D	Maximum number of violent motion rules reached.
noMoreLeavePositionR ulesAdded	0x4000128E	Maximum number of leaving position rules reached.
SMRDiskNotSupportRa id	0x40001291	SMR disk does not support RAID.
OnlySupportHikAndCus tomProtocol	0x400012A3	IPv6 camera can only be added via Device Network SDK or custom protocols.
vehicleEnginesNoReso urce	0x400012A6	Insufficient vehicle engine resources.
noMoreRunningRulesA dded	0x400012A9	Maximum number of running rules reached.
noMoreGroupRulesAd ded	0x400012AA	Maximum number of people gathering rules reached.
noMoreFailDownRules Added	0x400012AB	Maximum number of people falling down rules reached.
noMorePlayCellphone RulesAdded	0x400012AC	Maximum number of playing cellphone rules reached.
ruleEventTypeDuplicat e	0x400012C8	Event type duplicated.
noMoreRetentionRules Added	0x400015AD	Maximum number of people retention rules reached.
noMoreSleepOnDutyR ulesAdded	0x400015AE	Maximum number of sleeping on duty rules reached.
polygonNotAllowCrossi ng	0x400015C2	Polygons are not allowed to cross.

Sub Status Code	Error Code	Description
configureRuleBeforeAd vanceParam	0x400015F8	Advanced parameters fail to be configured as no rule is configured, please configure rule information first.
behaviorCanNotPackTo Pic	0x40001603	The behavior model cannot be packaged as a picture algorithm.
noCluster	0x40001608	No cluster created.
NotAssociatedWithOw nChannel	0x400019C1	Current channel is not linked.
AlTargetBPCaptureFail	0x400019C5	Capturing reference picture for AI target comparison failed.
AlTargetBPToDSPFail	0x400019C6	Sending reference picture to DSP for AI target comparison failed.
AlTargetBPDuplicateNa me	0x400019C7	Duplicated name of reference picture for AI target comparison.
audioFileNameWrong	0x400019D0	Incorrect audio file name.
audioFileImportFail	0x400019D1	Importing audio file failed.
NonOperationalStandb yMachine	0x400019F0	Non-operational hot spare.
MaximumNumberOfD evices	0x400019F1	The maximum number of devices reached.
StandbyMmachineCan notBeDeleted	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.
clientCertificateRevocat ion	0x4000203A	The client certificate is revoked.
CACertificateExpired	0x4000203B	The CA certificate is expired.
CACertificateRevocatio n	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.
encryptedFormattingFa iled	0x40002057	Formatting encrypted HDD failed.
wrongPassword	0x40002058	Verifying password of SD card failed. Incorrect password.
audioIsPlayingPleaseW ait	0x40002067	Audio is playing. Please wait.
twoWayAudioInProgre ssPleaseWait	0x40002068	Two-way audio in progress. Please wait.
calibrationPointNumFu II	0x40002069	The maximum number of calibration points reached.
completeTheLevelCalib rationFirst	0x4000206A	The level calibration is not set.
completeTheRadarCam eraCalibrationFirst	0x4000206B	The radar-camera calibration is not set.
pointsOnStraightLine	0x4000209C	Calibrating failed. The calibration points cannot be one the same line.
TValueLessThanOrEqua IZero	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.
enableITSFunctionOfTh isChannelFirst	0x400020A2	Enable ITS function of this channel first.
noCloudStorageServer	0x400020C5	No cloud storage server
NotSupportWithVideo Task	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.
audioTestRecoveryFaile d	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.
theNumberOfExDevLi mited	0x40008017	No peripheral can be added.
sirenConfigFailed	0x40008018	Setting siren failed.
chanCannotRepeatedB inded	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.
isNotSupportZoneConfi gByLocalArea	0x4000802e	This area does not support the zone type.
alarmLineCross	0x4000802f	Trigger lines are overlapped.
zoneDrawingOutOfRan ge	0x40008030	The drawn zone is out of detection range.
alarmLineDrawingOut OfRange	0x40008031	The drawn alarm trigger line is out of detection range.
hasTargetInWarningAr ea	0x40008032	The warning zone already contains targets. Whether to enable mandatory arming?
radarMoudleConnectF ail	0x40008033	Radar module communication failed.

Sub Status Code	Error Code	Description
importCfgFilePassword Err	0x40008034	Incorrect password for importing configuration files.
overAudioFileNumLimi t	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.
jpegPicWithAppendDat aError	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.
maxEventNameReache d	0x400015E4	Maximum of events reached.

Sub Status Code	Error Code	Description
hotSpareNotAllowedEx ternalStorage	0x400015FC	External storage is not allowed when hot spare is enabled.
sameCustomProtocolN ame	0x400015FD	A same protocol name already exists.
maxPTZTriggerChannel Reached	0x400015FE	Maximum of channels linked with PTZ reached.
POSCanotAddHolidayPl an	0x400015FF	No POS events during holidays.
eventTypeIsTooLong	0x40001600	Event type is too long.
eventNameIsTooLong	0x40001601	Event name is too long.
PerimeterEnginesNoRe source	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.

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Sub Status Code	Error Code	Description
conflictDomainName	0x6000000A	Domain name conflicted.
badPort	0х600000В	Port number conflicted.
portError	0x600000C	Port error.
exportErrorData	0x600000D	Importing data failed.
badNetMask	0x6000000E	Invalid sub-net mask.
badVersion	0x600000F	Version mismatches.
badDevType	0x60000010	Device type mismatches.
badLanguage	0x60000011	Language mismatches.
incorrentUserNameOrPasswor d	0x60000012	Incorrect user name or password.
invalidStoragePoolOfCloudServ er	0x60000013	Invalid storage pool. The storage pool is not configured or incorrect ID.
noFreeSpaceOfStoragePool	0x60000014	Storage pool is full.
riskPassword	0x60000015	Risky password.
UnSupportCapture	0x60000016	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.
DetectionLineOutofDetectionR egion	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.
DetectionRegionOutOfCountin gRegion	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
dataVersionsInHBDLibMismatc hes	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
analysisEnginesNoResourceErr or	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.
analysisEnginesFacelibImportin g	0x60001005	Importing pictures to face picture library. Failed to edit analysis engine parameters.
analysisEnginesAssociatedChan nel	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.
noSupportWithPlaybackAbstra ct	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.
noSupportWithPersonDensityD etect	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.
humanMisInfoFilterEnabledCha nNumError	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.
OneChannelOnlyCanBindOneE ngine	0x60001077	No more engines can be bound.
engineTypeMismatch	0x60001079	Engine type mismatched.
badUpgradePackage	0x6000107A	Invalid upgrade package.
AudioFileNameDuplicate	0x60001135	Duplicated audio file name.
CurrentAudioFileAlRuleInUseAl readyDelete	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.
AdaptiveStreamAndVariableBit rateEnabled	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.
LogDiskNotSetReDundancyInGr oupMode	0x60001101	The log HDD in the HDD group cannot be set to redundancy.
holidayNameContainChineseOr SpecialChar	0x60001080	No Chinese and special characters allowed in holiday name.
genderValueError	0x60001081	Invalid gender.
certificateTypeValueError	0x60001082	Invalid identification type.
personInfoExtendValueIsTooLo ng	0x60001083	The length of customized tags exceeds limit.
personInfoExtendValueContain sInvalidChar	0x60001084	Invalid characters are not allowed in customized tags of the face picture library.
excelHeaderError	0x60001085	Excel header error.
intelligentTrafficMutexWithHig hFrames	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.
intelligentTrafficMutexWithHig hFramesEx	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.

A.3 Error Codes Categorized by Functional Modules

The error codes returned during the text protocol integration is categorized by different functional modules. See the error codes, error descriptions, and debugging suggestions in the table below.

Public Function Module (Error Codes Range: 0x00000000, from 0x00100001 to 0x001fffff)

Error String	Error Code	Description	Debugging Suggestion
success	0x00000000	Succeeded.	
deviceNotActivate d	0x00100001	The device is not activated.	Activate the device.
deviceNoPermissi on	0x00100002	Device operation failed. No permission.	Update user's permission.
deviceNotSupport	0x00100003	This function is not supported.	Check the device capability set and call the API corresponding to supported function.
deviceResourceN otEnough	0x00100004	Insufficient resources.	Release resources.
dataFormatError	0x00100005	Invalid message format.	
resetError	0x00100006	Restoring to factory settings failed. Reactivating device is required after the device is reboot as the Reset button may be stuck.	
parameterError	0x00100007	Incorrect parameter	
	0x00100100	Invalid channel	Check if the channel is valid.
	0x00100101	NPQ live view is not supported for stream encryption.	Replace streaming mode for stream encryption.
	0x00100102	No more channels are allowed for NPQ streaming.	Reduce NPQ streaming channels and try again.
	0x00100103	The stream type is not supported.	Check the requested stream type.

Error String	Error Code	Description	Debugging Suggestion
	0x00100104	The number of connections exceeded limit.	Reduce the number of streaming clients and try again.
	0x00100105	Not enough bandwidth.	Reduce the number of remote streaming channels.

User Function Module (Error Codes Range: from 0x00200001 to 0x002fffff)

Error String	Error Code	Description	Debugging Suggestion
passwordError	0x00200001	Incorrect user name or password.	Check if the password is correct.
userNameNotExi st	0x00200002	The account does not exist.	Check if the account exists, or add the account.
userNameLocked	0x00200003	The account is locked.	Wait for the device to unlock.
userNumLimited	0x00200004	The number of users allowed to log in exceeded the upper limit.	Log out.
lowPrivilege	0x00200005	No permissions for this operation	For users operations, check the following situations:
			 Deleting your own account is not allowed. Editing your own level or permission is not allowed. Getting information about users with higher permission is not allowed. Elevating the user's level or permission is not allowed. For other operations, check according to the following measures: If operations unrelated to user's permission configuration failed, you can check the user type and permission, if not solved, contact the developers.

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Error String	Error Code	Description	Debugging Suggestion
incorrent User Na me Or Password	0x00200006	Incorrect user name or password	Check if the configured user name and password are matched. If not, contact the administrator to configure again. If the administrator forgets the password, reset the password of the device.
riskPassword	0x00200007	Risk password	Low password strength. Change password again.
passwordMustCo ntainMorethan8C haracters	0x00200008	The password length must be greater than or equal to 8.	Check if the password length is greater than or equal to 8. If not, change password again.
passwordLenNo MoreThan16	0x00200009	The password length cannot be greater than 16.	Check if the password length is greater than 16. If yes, change password again.
adminUserNotAll owedModify	0x0020000a	Editing admin information is not allowed.	Check if the edited account is admin.
confirmPassword Error	0x0020000b	Incorrect confirm password.	Check the confirm password.
passwordMustCo ntainMorethan2T ypes	0x0020000c	The password must contain at least two or more of followings: numbers, lowercase, uppercase, and special characters.	Check if the configured password conforms the requirements.
passwordContain UserName	0x0020000d	The password cannot contain the user name.	Check if the password contains the user name.
userPwdNameMi rror	0x0020000e	The password cannot be reversed user name.	Check if the password is reversed user name.

Time Function Module (Error Codes Range: from 0x00300001 to 0x003fffff)

Error String	Error Code	Description	Debugging Suggestion
manualAdjustmen tFailed	0x00300001	Time synchronization failed.	
NTPError	0x00300002	Invalid NTP server address.	Check if the NTP server address is valid.
timeFormatError	0x00300003	Incorrect time format during time calibration.	Incorrect message format or incorrect time format.
		For example, the time in ISO 8601 format should be "2018-02-01T19:54:04", but the applied time is "2018-02-01 19:54:04".	
beyondTimeRang eLimit	0x00300004	The calibration time is not within the time range supported by the device.	Get the device capability and check if the configured time is within the time range supported by the device.
endtimeEarlierTha nBegintime	0x00300005	The start time of the validity period cannot be later than the end time.	Check if the start time and end time are valid.

Network Function Module (Error Codes Range: from 0x00400001 to 0x004fffff)

Error String	Error Code	Description	Debugging Suggestion
domainNamePars eFailed	0x00400001	Parsing domain name failed.	
PPPOEConnected Failed	0x00400002	Connecting PPPOE to the network failed.	
FTPConnectedFail ed	0x00400003	The FTP server is disconnected.	
deviceIPConflicted	0x00400004	IP addresses of devices conflicted.	
libraryConnectedF ailed	0x00400005	The image and video library is disconnected.	

Error String	Error Code	Description	Debugging Suggestion
fileUploadFailed	0x00400006	Uploading failed.	Check if the network connection is normal. If yes, contact after-sales.
storSerDownloadF ileFailed	0x00400007	Downloading failed.	Check if the network connection is normal. If yes, contact after-sales.
storSerDownloadF ileSizeZero	0x00400008	The size of file downloaded from the storage service is 0.	Check if the network connection is normal. If yes, contact after-sales.
storSerNotConfig	0x00400009	Storage service is not configured.	Check if the configuration is correct.
badHostAddress	0x0040000a	Host address error	Check if the configuration is correct.
badIPv4Address	0x0040000b	Incorrect IPv4 address.	Check if the configuration is correct.
badIPv6Address	0x0040000c	Incorrect IPv6 address.	Check if the configuration is correct.
conflictIPv4Addre ss	0x0040000d	IPv4 address conflict.	Check the configuration status of IPV4 in the network.
conflictIPv6Addre ss	0x0040000e	IPv6 address conflict	Check the configuration status of IPV6 in the network.
badDomainName	0x0040000f	Incorrect domain name.	Check if the configuration is correct.
connectSreverFail	0x00400010	Connecting to server failed.	Check if the network is normal and check if the configuration is correct.
conflictDomainNa me	0x00400011	Domain name conflict.	Check if the configuration is correct.
badPort	0x00400012	Port conflict.	Check if the configuration is correct.
portError	0x00400013	Port error	Check if the configuration is correct.

Error String	Error Code	Description	Debugging Suggestion
badNetMask	0x00400014	Subnet mask error	Check if the configuration is correct.
badVersion	0x00400015	Version mismatch	Check if the version is correct.
badDns	0x00400016	DNS error	Check if the configuration is correct.
badMTU	0x00400017	MTU error	Check if the configuration is correct.
badGateway	0x00400018	Wrong gateway	Check if the configuration is correct.
urlDownloadFail	0x00400019	Downloading via URL failed.	Check if the network is normal and check if the URL is correct.
deployExceedMax	0x0040001a	The number of armed channels exceeds the maximum number of connections.	Get the supported maximum number of arming and the number of armed channels.

Maintenance Function Module (Error Codes Range: from 0x00500001 to 0x005fffff)

Error String	Error Code	Description	Debugging Suggestion
upgradeXMLForm atError	0x00500001	Incorrect XML upgrading request.	Check if the upgrade file is correct. If the file is correct, try the local upgrade.
upgradeContentEr ror	0x00500002	Incorrect upgrading request content.	Check if the upgrade file is correct. If the file is correct, try the local upgrade.
noUpgradePermis sion	0x00500003	No upgrade permission.	Switch to admin account or ask admin for advanced operation permission.
upgrading	0x00500004	Upgrading	Wait for the upgrade to complete.
receiveUpgradePa ckageError	0x00500005	Receiving upgrade package failed.	Check if the network is normal.

Error String	Error Code	Description	Debugging Suggestion
upgradePackageL anguageMismatch	0x00500006	Upgrade package language mismatch.	Check the language type of upgrade package and the device.
upgradePackageM ismatch	0x00500007	Upgrade file does not match with the device type.	Check the type of upgrade package and device.
OEMCodeMismat ch	0x00500008	Upgrade package error. The OEM code mismatch.	Contact after-sales to get the correct upgrade package.
versionMismatch	0x00500009	Upgrade file version mismatch.	Contact after-sales to get the correct upgrade package.
upgradeHalfFailed	0x0050000c	Error occurred in the halfway of device upgrading. Flash error or cache error.	
deviceParameterI mportFailed	0x0050000d	Importing device parameters failed. Device model, version, or platform mismatches.	
deviceEncryptionE rror	0x0050000e	Upgrade package mismatches. Device encryption error.	
SDCardFormatErr or	0x00500025	Formatting SD card failed.	
SDCardLoadFailed	0x00500026	Loading page failed after the SD card is inserted.	
NASFailed	0x00500027	Mounting NAS failed.	
hardDiskError	0x00500028	HDD exception (possible reasons: HDD does not exist, incompatible, encrypted, insufficient capacity, formatting exception, array incompatible, etc.)	
upgradeError	0x00500030	Upgrade error	

Error String	Error Code	Description	Debugging Suggestion
upgradePackageSi zeMismath	0x00500032	Mismatch between the actual size of the downloaded upgrade package and the size in the upgrading request.	
upgradePackageSi zeExceeded	0x00500033	The size of the package exceeded that of the partition.	
domainNamePars eFailedForDownlo ad	0x00500034	Parsing the domain name of the address for downloading failed.	
netWorkUnstable	0x00500035	Unstable network. Downloading timed out or the maximum number of attempts reached.	
digestValueMisma tch	0x00500036	Mismatched digest value.	
signatureVerifyFai led	0x00500037	Verifying the signature failed.	
innerFormatError	0x00500038	Incorrect inner format of the upgrade package.	
memoryNotEnoug h	0x00500039	Insufficient memory.	
burnFailed	0x0050003a	Burning firmware failed.	
unknownError	0x0050003b	Unknown error occurred in the underlying APIs.	
userCancel	0x0050003c	User requested cancel of current operation.	
systemResume	0x0050003d	Upgrading failed. You can resume via the backup system or minimum system.	
	0x00500080	Upgrade file is not found.	Check if the upgrade package path is too long or if there is a correct upgrade

Error String	Error Code	Description	Debugging Suggestion
			package under the upgrade package path.
	0x00500081	Upgrade file does not match with the engine type.	Select the upgrade package matched with the device engine type.
	0x00500082	Parsing camera domain name failed.	Confirm if the device is correctly configured DNS service and if the camera domain is valid.
	0x00500083	Camera network is unreachable.	Confirm if the local network can access the network where the added channel located.

Live View Module (Error Codes Range: from 0x00600001 to 0x006fffff)

Error String	Error Code	Description	Debugging Suggestion
liveViewFailed	0x00600001	Live view failed. The number of streaming channels exceeded limit.	
	0x00600002	Request packaging format exception.	Check the packaging format of requested live view.
	0x00600003	NPQ will be unavailable after enabling EHome 2.x.	When EHome 2.x is enable, use other live view mode.
	0x00600005	NPQ live view is not supported for channel-zero.	User other live view mode for channel-zero.
	0x00600007	Only virtual stream supports NPQ live view.	Switch to virtual strem.
	0x0060000A	The IP channel is offline.	Check if the IP channel is online and try again.
	0х0060000В	Live view transcoding is not supported by the device.	Use other stream type for live view.
	0x0060000C	Channel-zero is not enabled.	Enable channel-zero before starting live view of channel-zero.

Error String	Error Code	Description	Debugging Suggestion
	0x0060000D	Transcoding capability exceeded limit.	Reduce camera resolution or the number of transcoding channels.
	0x00600010	The channel does not have sub-stream.	Use main stream mode for live view.
	0x00600011	NPQ live view is not supported by the device.	Switch to other live view mode.
	0x00600012	NPQ function is disabled.	Enable NPQ function or switch to other live view mode.

Playback Module (Error Codes Range: from 0x00700001 to 0x007fffff)

Error String	Error Code	Description	Debugging Suggestion
	0x00700001	Playback failed. Up to one channel's playback is supported.	
	0x00700002	The speed of playback displayed on video wall is not supported.	Reduce the playback speed.
	0x00700003	The transmission rate of playback stream is too high.	Reduce the transmission rate of playback stream.
	0x00700004	The encoding type of playback stream is not supported.	Provide the stream with encoding type supported by device.
	0x00700005	The container format of playback stream is not supported.	Provide the stream with container format supported by device.
	0x00700007	Exception occurred when decoding playback stream Possible reasons: displaying on video wall exception, image exception, display exception, decoding exception, image is stuck,	

Error String	Error Code	Description	Debugging Suggestion
		black screen, invalid stream type, live view is stuck, audio decoding exception, and blurred screen.	
	0x00700008	Playback video does not exit, or searching failed.	Search again or check if HDD is normal.
	0x00700009	Playback time parameter error.	Check if the time period of searched video is correct and try again.
	0x0070000A	Invalid video type.	Select the correct video type to search.
	0х0070000В	Invalid time type.	Select the correct time type to search.
	0x0070000C	Invalid event parameter.	Select the correct event parameter to search.
	0x0070000D	Invalid event type.	Select the correct event type to search.
	0x0070000E	The device does not support smart search.	Select the non smart search mode to search.
	0x0070000F	Invalid smart event type.	Select the correct smart event type to search.
	0x00700010	Invalid dynamic analysis sensitivity.	Select the correct sensitivity to search video.
	0x00700011	Reverse playback is not supported.	Select the correct playback mode.
	0x00700012	Invalid file status.	Select the correct file status to search.
	0x00700013	Invalid searching start position.	Use the correct searching start position to search.
	0x00700014	Invalid maximum number of searching.	Use the correct maximum number of searching to search.

Capture Module (Error Codes Range: from 0x00800001 to 0x008fffff)

Error String	Error Code	Description	Debugging Suggestion
	0x00800001	Manual capture failed.	

Two-Way Audio Module (Error Codes Range: from 0x00900001 to 0x009fffff)

Error String	Error Code	Description	Debugging Suggestion
startFailed	0x00900001	Starting two-way audio failed. Audio loss or driver error.	
codingFormatNot Match	0x00900002	The encoding format of the intercom is inconsistent, and the negotiation fails	Check or capture the packets on the platform, then analyze if the audio encoding formats negotiated by both sides are consistent.
dialedIsBusy	0x00900003	The intercom party is already in the intercom and can no longer respond to the intercom	Check if the intercom party is already in the intercom, if not, get the protocol message and analyze the response message.
destinationLongN umberError	0x00900004	The requested destination long number is wrong	Check or capture the packets on the platform, then analyze the long number.

Video Storage Module (Error Codes Range: from 0x00a00001 to 0x00afffff)

Error String	Error Code	Description	Debugging Suggestion
videoSearchFailed	0x00a00001	Searching videos failed.	No resource stored in the device.
notFindStorageM edium	0x00a00002	No storage medium found.	
videoDownloadFa iled	0x00a00003	Downloading videos failed.	

Picture Storage Module (Error Codes Range: from 0x00b00001 to 0x00bfffff)

Error String	Error Code	Description	Debugging Suggestion
	0x00b00001	Searching pictures failed.	No picture resource.

IO Function Modele (Error Codes Range: from 0x00c00001 to 0x00cfffff)

Error String	Error Code	Description	Debugging Suggestion
	0x00c00001	Invalid alarm input No.	
	0x00c00002	Invalid alarm output No.	

Event Function Module (Error Codes Range: from 0x00d00001 to 0x00dfffff)

Error String	Error Code	Description	Debugging Suggestion
	0x00d00001		Refer to the manual for correct configuration.

Parking Service Module (Error Codes Range: from 0x00e00001 to 0x00efffff)

Error String	Error Code	Description	Debugging Suggestion
	0x00e00001	The vehicle with parking pass already exists.	Parking pass is created by license plate, you need to check if the parking pass for this license plate already created.
	0x00e00002	The license plate number is required.	

General Function Module (Error Codes Range: from 0x00f00001 to 0x00ffffff)

Error String	Error Code	Description	Debugging Suggestion
noMemory	0x00f00001	Insufficient device memory (heap space allocation failed).	Check the free memory and send logs to the developer for analysis.
deviceBusy	0x00f00002	The device is busy or the device is not responding.	Send logs to the developers for analysis.

Error String	Error Code	Description	Debugging Suggestion
			For fingerprint collection, face collection, file application, and file uploading services, check if the last operation is completed.
notSupport	0x00f00003	The URL is not supported by the device.	Capture the packets, check if the applied URL exists in the PMP platform. If yes, send the URL to the developer for analysis.
methodNotAllowe d	0x00f00004	HTTP method is not allowed.	Capture the packets, check the method corresponding to the URL in the PMP platform.
invalidOperation	0x00f00005	Invalid operation of API command.	
IDNotexist	0x00f00006	The ID does not exist (the URL should contain ID, but the actual URL does not contain the ID).	Capture the packets and check if the ID included in the URL is correct.
invalidID	0x00f00007	Invalid ID (the ID in the URL exceeds the capability set or the ID format is invalid).	Capture the packets and check if the ID included in the URL is correct. Get the capabilities of URL and check the ID range.
invalidIURL	0x00f00008	The content after the "?" in the URL is wrong.	Capture the packets and check if the URL is correct.
deviceAckTimeOu t	0x00f00009	Device response timed out.	If the communication with the external module timed out, check if the external module is offline. When the above situation is eliminated, send logs to the developer for analysis.
badXmlFormat	0x00f0000a	XML format error	

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Error String	Error Code	Description	Debugging Suggestion
badJsonFormat	0x00f0000b	JSON format error	
badURLFormat	0x00f0000c	URL format error	Get the URL and check if it is correct.
badXmlContent	0x00f0000d	 XML message error: The message contains only URL but no message body The required node is not configured. Node value exceeds the range limit (incorrect node value). 	
badJsonContent	0x00f0000e	 JSON message error: The message contains only URL but no message body The required node is not configured. Node value exceeds the range limit (incorrect node value). 	
messageParamete rsLack	0x00f0000f	The required node does not exists.	
invalidSearchCond itions	0x00f00010	Invalid search condition, search again.	Check if searchID is correct.
operObjectNotExi st	0x00f00011	The object does not exist (for the operations about door, alarm IO, the object is not added).	Check if door lock is connected.

Door Control Module (Error Codes Range: from 0x01000001 to 0x010ffffff)

Error String	Error Code	Description	Debugging Suggestion
multiAuthenticati on Failed	0x01000001	Multi-factor authentication status operation failed.	
securityModuleOff line	0x01000002	The safety door control module is offline and fails to open the door.	Check if the safety door control is offline.

Schedule Template Module (Error Codes Range: from 0x01100001 to 0x011fffff)

Error String	Error Code	Description	Debugging Suggestion
planNumberConfli ct	0x01100001	Plan number conflict.	
timeOverlap	0x01100002	Time period conflict.	Check the message to find out if there is a time overlap of different time periods in one day.

Person Information Module (Error Codes Range: from 0x01200001 to 0x012fffff)

Error String	Error Code	Description	Debugging Suggestion

Certificate Module (Error Codes Range: from 0x01300001 to 0x013fffff)

Error String	Error Code	Description	Debugging Suggestion

Security Function Module (Error Codes Range: from 0x01400001 to 0x014fffff)

Error String	Error Code	Description	Debugging Suggestion
decryptFailed	0x01400001	Decryption failed, when decrypting sensitive	The import secret key should be consistent with the export.

Error String	Error Code	Description	Debugging Suggestion
		information fields or importing data files.	
certificateNotmat ch	0x01400003	Certificates mismatched, SSL/TLS public and private keys need to be matched in pairs.	The public and private keys need to be generated at the same time.
notActivated	0x01400004	Device is not activated.	Activate the device by tools such as SADP before use.
hasActivated	0x01400005	Device has been activated.	
forbiddenIP	0x01400006	IP address is banned	IP address is banned when illegal login attempts exceed the upper limit.
bondMacAddress NotMatch	0x01400007	The MAC address does not match the user.	Check if the specific MAC address has linked to the user.
bondIpAddressNo tMatch	0x01400008	IP address does not match the user.	Check if the specific IP address has linked to the user.
badAuthorization	0x01400009	Triggered by illegal login	Incorrect password triggered the illegal login.

Advertising Function Module (Error Codes Range: from 0x01500001 to 0x015fffff)

Error String	Error Code	Description	Debugging Suggestion
materialDownloa dFailed	0x01500001	Material download failed.	 Check if the network connection is normal. Check if the device is running normally. Check the log print.
materialNumberIs Over	0x01500002	The number of materials in the program list reached the upper limit.	Check if the number of materials in applied program list exceeded the limit.

A.4 Main Vehicle Brand Reference

Code (vehicleLogoRecog)	Brand
1026	ALFAROMEO
1027	ASTONMARTIN
1028	AUDI
1030	PORSCHE
1031	BUICK
1032	BJQICHE
1033	BQZHIDAO
1034	BQWEIWANG
1035	BQYINXIANG
1036	BENZ
1037	BMW
1038	BAOJUN
1039	BAOLONG
1040	BENTLEY
1041	BRABUS
1043	HONDA
1044	PEUGEOT
1045	BYD
1046	CHANGHE
1048	GREATWALL
1049	CHANGAN
1050	DS
1051	SOUEAST
1053	VOLKSWAGEN
1054	DADI
1056	DODGE

Code (vehicleLogoRecog)	Brand
1059	DAIHATSU
1060	ТОУОТА
1063	FEREARI
1064	FORD
1066	FUDI
1067	FIAT
1069	MITSUOKA
1070	GZYUNBAO
1071	GQCHUANQI
1074	QOROS
1076	НИАРИ
1077	HUATAI
1078	HAFEI
1079	HUMMER
1080	HAIMA
1081	HONGQI
1083	GEELYAUTO
1084	JEEP
1085	JAGUAR
1086	JIANGNAN
1088	CHRYSLER
1089	CADILLAC
1091	KANDIONE
1093	LAMBORGHINI
1094	LIFAN
1095	ROLLSROYCE
1096	LINCOLN
1097	EVERUS

Code (vehicleLogoRecog)	Brand
1098	LIANHUA
1100	LOTUS
1101	LANDROVER
1102	SUZUKI
1103	LUFENG
1104	LEXUS
1105	RENAULT
1107	MINI
1108	MASERATI
1109	MEIYA
1110	MCLAREN
1111	МАҮВАСН
1112	MAZDA
1114	LUXGEN
1115	NJJINLONG
1116	OPEL
1117	ACURA
1119	VENUCIA
1120	CHERY
1121	KIA
1123	NISSAN
1124	RUIQI
1125	ROEWE
1127	SMART
1128	MITSUBISHI
1129	SQDATONG
1131	SHUANGHUAN
1132	SHUANGLONG

Code (vehicleLogoRecog)	Brand
1133	SUBARU
1134	SKODA
1135	SAAB
1138	TIANMA
1139	TEALA
1141	DENZA
1143	WEILIN
1144	VOLVO
1145	WCYINGZHI
1146	XINKAI
1147	XINDADI
1148	XINYATU
1149	HYUNDAI
1150	SEAT
1151	CHEVROLET
1152	CITROEN
1154	YONGYUAN
1156	INFINITI
1157	MUSTANG
1159	YUJIE
1160	ZXAUTO
1161	ZHONGHUA
1163	ZOTYE
1164	KNOWBEANS
1165	KAIYI
1166	HUASONG
1167	JXWUSHILING
1168	BORGWARD

Code (vehicleLogoRecog)	Brand
1169	SQTONGJIA
1170	HANJIANG
1171	ZINORO
1172	LUDIFANGZHOU
1173	HANTENG
1175	CHANGJIANG
1176	SWM
1177	KEYTON
1180	BISU
1181	CAKUAYUE
1537	ANKAI
1538	ANYUAN
1540	BBZHONGQI
1546	CHENGGONG
1547	CHANGLONG
1549	CASHANGYONG
1552	DONGFENG
1554	DAEWOO
1555	DAYUN
1556	DIMA
1557	DONGWO
1559	FUTIAN
1561	GMC
1562	GQJIAO
1566	HUALING
1570	HUIZHONG
1571	HIGER
1574	HTYUANTONG

Code (vehicleLogoRecog)	Brand
1575	HANGTIAN
1576	HUANGHAI
1577	HEIBAO
1578	JIULONG
1579	JIANGHUAI
1580	JIANGHUAN
1581	JIANGLING
1584	JINBEI
1585	JINLONG
1586	KAIMA
1587	KAWEI
1588	KAIRUI
1590	LIANHE
1592	MAN
1594	NONGYONGCHE
1596	NANJUN
1597	QINGLING
1598	YOUNGMANONE
1599	SYZHONGGONG
1600	SHSHITONG
1602	TRICYCLE
1603	SQYWKHY
1606	SHAOLIN
1608	SHIFENG
1609	SUNWIN
1611	SHENYE
1612	SHUCHI
1613	SHANQI

Code (vehicleLogoRecog)	Brand
1614	SCANIA
1615	TANGJUN
1619	WANFENG
1620	WUZHENG
1621	WULING
1626	XUGONG
1629	FAW
1630	YAXING
1631	IVECO
1633	YUTONG
1634	YANGZI
1635	YANTAI
1636	YUEJIN
1637	YINTIAN
1639	ZGZHONGQI
1641	ZHONGTONGONE
1642	ZHONGSHUN
1644	ZHONGDA
1646	JGZHONGKA
1647	WUZHOULONG
1648	COACH
1651	PICKUP
1654	JIJIANG
1674	DONGFANGHONG
1676	QINGQI
1677	TRUCK
1678	SPYCAR
1679	TRAILCAR

Code (vehicleLogoRecog)	Brand
1683	GUILIN
1684	SCHYUNDAI
1688	WANXIANG
1690	LFSHIJUN
1691	CHANGAN
1692	ZLZHONGGONG
1693	YINLONG
1695	YIXING
1696	XIWO
1697	YANGZIJIANG
1698	SUITONG
1702	ZHONGTIANFC
1703	WANDA
1704	SHANGRAO
1705	ZHONGZHI
1706	ZCSDDIANDONG
1707	ZHONGTONGTWO
1708	GLCOACH
1709	BEIJING
1710	BEIFANG
1711	BFNAPULAN
1712	HUACHUAN
1713	YOUYI
1714	TONGXIN
1715	MG
1716	JIACHUAN
1717	NVSHEN
1718	SHILI

Code (vehicleLogoRecog)	Brand
1719	SHAOLINTWO
1720	CHUANJIAO
1721	CHUANMA
1722	GUANGQI
1723	GQRIYE
1724	KANGDITWO
1725	HENGTIAN
1726	HENGTONG
1727	XINFUDA
1728	XINLONGMA
1729	CHUANLAN
1730	CHUFENG
1731	JMCJM
1732	JMCZQ
1733	HAIOU
1734	MUDAN
1735	LEOPAARD
1736	SHENLONG
1737	FOTONSD
1738	HONGXING
1739	SHUCHITWO
1740	SHUDU
1741	HENGSHAN
1742	YUEXI
1743	YUANCHENG
1744	JINLV
1745	CAOUSHANG
1746	YOUNGMANTWO

Code (vehicleLogoRecog)	Brand
1747	LINK
1748	FEIDIE
1749	FEICHI
1750	LISHAN
1751	JUNWEI
1752	NANQI
1753	DAHAN
1754	CHUNZHOU
1755	DIANKA
1756	HTWANSHAN
1757	ZOBENZFC
1758	YUNDU
1759	JUNMA
1760	GUOJIN
1761	WEIMA
1762	OULA
1763	NIO
1764	LADA
1765	JETOUR
1766	FORO
1767	нісом
1768	JAC
1769	JEEP
1770	JEEP
1771	PERODUA
1772	UD
1773	ТОУОТА
1774	ТОУОТА

Code (vehicleLogoRecog)	Brand
1775	ISUZU
1776	HYUNDAI-ROHENS
1777	BEIBEN TRUCK
1778	SSANGYONG
1779	SSANGYONG-OLD VERSION
1780	HAVAL
1781	DAIHATSU
1782	DAEWOO
1783	PROTON
1784	PROTON
1785	PROTON
1786	GEELY-EMGRAND
1787	HINO
1788	UNKNOW
1789	KIA
1790	KIA-OLD VERSION
1791	KIA-BORREGO
1792	ALFA
1793	EQUUS-OLD VERSION
1794	RENAULT SAMSUNG
1795	MALAYSIA_UNKNOWN 1
1796	AUCHAN
1797	BONLUCK
1798	JDMC
1799	WANXIANG
1800	SATE
1801	FLM
1802	SRM

Code (vehicleLogoRecog)	Brand
1803	GEOMETRY
1804	BAOJUN-RS-5

A.5 Country/Region Code

Here is the code list of the countries and regions that are supported by the algorithm library for license plate recognition.

CRIndex (Country/Region Code)	Description
0	Not supported by the algorithm
1	Czech Republic
2	France
3	Germany
4	Spain
5	Italy
6	Netherlands
7	Poland
8	Slovakia
9	Belarus
10	Moldova
11	Russia
12	Ukraine
13	Belgium
14	Bulgaria
15	Denmark
16	Finland
17	United Kingdom
18	Greece
19	Croatia

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CRIndex (Country/Region Code)	Description
20	Hungary
21	Israel
22	Luxembourg
23	Macedonia (changed to North Macedonia in 2018)
24	Norway
25	Portuga
26	Romania
27	Serbia
28	Azerbaijan
29	Georgia
30	Kazakhstan
31	Lithuania
32	Turkmenistan
33	Uzbekistan
34	Latvia
35	Estonia
36	Albania
37	Austria
38	Bosnia and Herzegovina
39	Ireland
40	Iceland
41	Vatican
42	Malta
43	Sweden
44	Switzerland
45	Cyprus
46	Turkey
47	Slovenia

CRIndex (Country/Region Code)	Description
48	Montenegro
49	Kosovo
50	Andorra
51	Armenia
52	Monaco
53	Liechtenstein
54	San Marino
55	Reserved
56	Reserved
57	Reserved
58	Reserved
59	China
60	Bahrain
61	South Korea
62	Lebanon
63	Nepal
64	Thailand
65	Pakistan
66	United Arab Emirates
67	Bhutan
68	Oman
69	North Korea
70	Philippines
71	Cambodia
72	Qatar
73	Kyrgyzstan
74	Maldives
75	Malaysia

CRIndex (Country/Region Code)	Description
76	Mongolia
77	Saudi Arabia
78	Brunei
79	Laos
80	Japan
81	Turkey
82	Palestinian
83	Tajikistan
84	Kuwait
85	Syria
86	India
87	Indonesia
88	Afghanistan
89	Sri Lanka
90	Iraq
91	Vietnam
92	Iran
93	Yemen
94	Jordan
95	Myanmar
96	Sikkim
97	Bangladesh
98	Singapore
99	Democratic Republic of Timor-Leste
100	Reserved
101	Reserved
102	Reserved
103	Reserved

CRIndex (Country/Region Code)	Description
104	Egypt
105	Libya
106	Sudan
107	Tunisia
108	Algeria
109	Morocco
110	Ethiopia
111	Eritrea
112	Somalia Democratic
113	Djibouti
114	Kenya
115	Tanzania
116	Uganda
117	Rwanda
118	Burundi
119	Seychelles
120	Chad
121	Central African
122	Cameroon
123	Equatorial Guinea
124	Gabon
125	Congo
126	Democratic Republic of the Congo
127	Sao Tome and Principe
128	Mauritania
129	Western Sahara
130	Senegal
131	Gambia

CRIndex (Country/Region Code)	Description
132	Mali
133	Burkina Faso
134	Guinea
135	Guinea-Bissau
136	Cape Verde
137	Sierra Leone
138	Liberia
139	Ivory Coast
140	Ghana
141	Togo
142	Benin
143	Niger
144	Zambia
145	Angola
146	Zimbabwe
147	Malawi
148	Mozambique
149	Botswana
150	Namibia
151	South Africa
152	Swaziland
153	Lesotho
154	Madagasca
155	Comoros
156	Mauritius
157	Nigeria
158	South Sudan
159	Saint Helena

CRIndex (Country/Region Code)	Description
160	Mayotte
161	Reunion
162	Canary Islands
163	AZORES
164	Madeira
165	Reserved
166	Reserved
167	Reserved
168	Reserved
169	Canada
170	Greenland Nuuk
171	Pierre and Miquelon
172	United State
173	Bermuda
174	Mexico
175	Guatemala
176	Belize
177	El Salvador
178	Honduras
179	Nicaragua
180	Costa Rica
181	Panama
182	Bahamas
183	Turks and Caicos Islands
184	Cuba
185	Jamaica
186	Cayman Islands
187	Haiti

CRIndex (Country/Region Code)	Description
188	Dominican
189	Puerto Rico
190	United States Virgin Islands
191	British Virgin Islands
192	Anguilla
193	Antigua and Barbuda
194	Collectivité de Saint-Martin
195	Autonomous country
196	Saint-Barthélemy
197	Saint Kitts and Nevis
198	Montserrat
199	Guadeloupe
200	Dominica
201	Martinique
202	St. Lucia
203	Saint Vincent and the Grenadines
204	Grenada
205	Barbados
206	Trinidad and Tobago
207	Curação
208	Aruba
209	Netherlands Antilles
210	Colombia
211	Venezuela
212	Guyana
213	Suriname
214	Guyane Francaise
215	Ecuador

CRIndex (Country/Region Code)	Description
216	Peru
217	Bolivia
218	Paraguay
219	Chile
220	Brazil
221	Uruguay
222	Argentina
223	Reserved
224	Reserved
225	Reserved
226	Reserved
227	Australia
228	New Zealand
229	Papua New Guinea
230	Salomonen
231	Vanuatu
232	New Caledonia
233	Palau
234	Federated States of Micronesia
235	Marshall Island
236	Northern Mariana Islands
237	Guam
238	Nauru
239	Kiribati
240	Fidschi
241	Tonga
242	Tuvalu
243	Wallis et Futuna

CRIndex (Country/Region Code)	Description
244	Samoa
245	Eastern Samoa
246	Tokelau
247	Niue
248	Cook Islands
249	French Polynesia
250	Pitcairn Islands
251	Hawaii State
252	Reserved
253	Reserved
254	Unrecognized
255	ALL
256	Taiwan (China)
257	Hong Kong (China)
258	Macau (China)

A.6 Region Code

Here is the code list of the regions that are supported by the algorithm library for license plate recognition.

region (Region Code)	Description
ER	Russian Region
EU	Europe Region
EUandCIS	EU&CIS
ME	Middle East
other	Other
APAC	Asia-Pacific Region
AFandAM	Africa and America

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region (Region Code)	Description
THAandLA	Thailand and Laos
HKandMO	Hong Kong and Macao
India	India
All	All regions

