

VIGI IPC Open API Document

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1. Overview

1.1 Introduction

This section explains how to use VIGI OpenAPI.

VIGI OpenAPI consists of three parts: discovery protocol, control protocol and stream protocol. The OpenAPI Discovery Protocol (ODP) is used for device Discovery. The OpenAPI Discovery Protocol can be used to obtain summary information about a specific host on the same network segment or across network segments. After the device is discovered, you can know the IP address, mac address, and port of the device. Based on this information, you can obtain and set parameters of the device through the OpenAPI control interface, and also make requests related to data stream through the stream interface. Note that authentication is required before the interface is officially used. See Section 2.2 for authentication methods. When the OpenAPI stream interface is used, data streams are often transmitted. In this case, parse and assemble data packets based on RTP Over TCP format.

1.2 Update History

Version	Description
V1.3	Add Section 2.1.5 and 2.4. Update Section 3, 4.1.2 and appendix 1.
V1.2	Add Section 2.1.4, 4.3.5-4.3.8, 4.4.6-4.4.11, 4.5.4-4.5.11, 4.8.44-4.8.69, 4.15.2-4.15.3, 4.16.1-4.16.4, 4.17.1-4.17.6, 4.18.1-4.18.4, 4.19.1-4.19.2, 5.8
V1.1	Delete Section 4.2.4 doSoftReset
V1.0	Initial release

2. OpenAPI Transaction

2.1 Request Format

2.1.1 The request format of OpenAPI Discovery

The OpenAPI Discovery Protocol (ODP) local service port is 23001 and 5001, and the protocol type field in the Ethernet package is 0x7210.

The request packet must be constructed according to the OpenAPI Discovery Protocol. For details, see Section 3.

2.1.2 The request format of OpenAPI control interface

The VIGI OpenAPI request format is as follows:

```
POST https://device_addr:port/stok=xx HTTP/1.1
Content-Type: application/json
Content-Length: xxx
{"method":"xx","params":{"..."}}
// or {"method":"xx"}
```

The VIGI OpenAPI information must be a json string containing 'method' and 'method' parameters. For details, see section -- 4.OpenAPI Interface.

Port opened by VIGI for the openAPI control interface can be obtained using the OpenAPI Discovery Protocol, the default value is 20443.

2.1.3 The request format of OpenAPI stream interface

The VIGI OpenAPI stream request format is as follows:

```
MULTITRANS rtsp : //ip /multitrans RTSP/1.0
CSeq : 1
Content-Type : application/json
Content-Length : xxx
{"type": "request", "seq" : "1", "params" : {"method" : "xx"}}
```

The VIGI OpenAPI stream information must be a json string. For details, see section -- 5.OpenAPI Stream interface.

The port corresponding to the OpenAPI stream interface is the port corresponding to the rtsp. The default port is 554. This port is available through the 'getStreamPort' interface.

2.1.4 The request format of OpenAPI heartbeat interface

The VIGI OpenAPI stream heartbeat format is as follows:

```
MULTITRANS rtsp : //ip /multitrans RTSP/1.0
CSeq : 1
Content-Type : application/json
Content-Length : xxx
{"type":"notification"}
```

For playback and download requests, heartbeats need to be sent periodically; the connection will be disconnected if it exceeds 20 seconds.

2.1.5 The request format of openAPI initialization interface

The VIGI OpenAPI initialization request format is as follows:

```
POST https://device_addr:443/openapi/initialize HTTP/1.1
Content-Type: application/json
```

```
Content-Length: xxx
{"method": "xx", "params": {...}}
// or {"method": "xx"}
```

2.2 Authentication

2.2.1 Method:doAuth

Method: doAuth indicates the authentication before using various OpenAPI control interfaces. After the authentication is successful, 'stok' is returned. 'stok' is required when using all types of openAPI interfaces (except doAuth).

The steps to use doAuth are as follows:

```
/* Step 1 */
POST https://device_addr:port HTTP/1.1
Content-Type: application/json
Content-Length: xxx
{
    "method": "doAuth",
    "params": null
}

/* reply */
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: application/json
Content-Length: xxx
{
    "method": "doAuth",
    "authenticate": {
        "realm": "xxx",
        "nonce": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx", // nonce1
        "algorithm": "xxx",
        "uri": "xxx",
        "method": "xxx"
    },
    "errCode": -10020
}

/* Step 2 */
POST https://device_addr:port HTTP/1.1
Content-Type: application/json
Content-Length: xxx
{
```

```

    "method": "doAuth",
    "params":
    {
        "nonce": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx", // nonce1
        "response": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
    }
}

/* reply */
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: application/json
Content-Length: xxx
{
    "method": "doAuth",
    "stok": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx",
    "errCode": 0
}

```

In the second step, the response is calculated from the admin password and the authenticate returned by the IPC. If the algorithm returned by the ipc is SHA-256, the calculation method is as follows:

```

A1 = SHA256(admin:realm:password)
A2 = SHA256(method:uri)
response = SHA256(A1:nonce:A2)

```

Port opened by VIGI for the openAPI control interface can be obtained using the OpenAPI Discovery Protocol, the default value is 20443.

2.2.2 Digest Authentication

Digest authentication is used to establish OpenAPI stream connections. The client sends the request without authentication, and the server replies the message with the nonce. The client then sends a request with authorization label, which contains the response calculated by using information such as nonce. The server authenticates the packet after receiving the Authorization label, and continues to process the packet if it passes. Otherwise, a 401 Unauthorized error is displayed.

The process is as follows:

```

/* No authentication request */
C->S:  MULTITRANS rtsp://ip/multitrans RTSP/1.0
      CSeq: 1
      Content-Type: application/json
      Content-Length: xxx

```

```

<json >

/* reply */
S->C: RTSP/1.0 401 Unauthorized
CSeq: 1
WWW-Authenticate: Digest realm="< Request domain >", nonce="< A random 32-bit
character string >", algorithm="SHA-256", qop="auth"

/* authentication request */
C->S: MULTITRANS rtsp://ip/multitrans RTSP/1.0
CSeq: 1
Authorization: Digest username="< username >", realm="< Request domain >",
nonce="< A random 32-bit character string returned by the Server >",
uri="rtsp://ip/multitrans" , qop="auth", cnonce="< cnonce >", nc="< nc >",
response="< SHA-256 digest >"
Content-Type: application/json
Content-Length: xxx
<json >

/* reply */
S->C: RTSP/1.0 200 OK
CSeq: 1
Content-Type: application/json
Content-Length: xxx
<json >

```

2.3 Data Transmission

The data transfer occurs after IPC successfully responds to the relevant request. Using the idea of RTP Over TCP. The format is as follows:

\$ (1B)	Chn ID (1B)	Length (2B)
---------	-------------	-------------

2.4 Initialization

2.4.1 Process

1. Use ODP to obtain IPC initialization status, IP, port, and other information.
2. When the factory_default value is true, it indicates that the IPC is in an uninitialized state, and the initialization interface can be called.
3. Call the getEncriptInfo interface to obtain the RSA2048 encryption key.
4. URL-decode the obtained key and perform RSA encryption on the password to be set.
5. Call the setPassword interface to issue the ciphertext encrypted in the previous

step.

6. Subsequent settings for time zone and power line frequency refer to the openAPI interface documentation.

Password rule:

- 1.Password must be 10 to 64 characters and a combination of uppercase letters, lowercase letters, numbers, and symbols.
- 2.Password cannot contain three consecutive numbers or letters.
- 3.Password cannot contain two consecutive identical characters.

```

/*Step1*/
POST https://device_addr:443/openapi/initialize HTTP/1.1
Content-Type: application/json
Content-Length: xxx
{
    "method":"getEnchrptInfo",
}

/*reply*/
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: application/json
Content-Length: xxx
{
    "method": "getEncryptInfo",
    "result": {
        "encryptInfo": {
            "rsakey":
"MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAvS5eDixCkjHv%2bpFIjg6tTnxIsCQDY3ar1
MZKS3a3qmnWqvMjAJm7F8I064F0m3G9fTRPg4TwwzZ4f%2fjhox0K%2b9ANZWgQOef7QXs7I%2b
0z00Q%2fxHMqWY6AQnni1iz8KPFWI%2bQNY7V9itq5MLg3oImBOtY2vmPpQnyW8rTzU4tLemMmk
dh82KpwcK0m2xUoz2z3YyOZ0PymVJDKVfpNx9U%2fw%2bXcHHw9fdCci2vHPhp%2bEaBfdBeq9e
GyMJOFkDrYCuYVRdJb7xuCmxFu3NsT61F2EGykLTljgCPd%2fN7dJFvD1QmgRoCtMp8OFdsICBgGN
mocDqGstGEmbPbvUQI2wmVCQIDAQAB"
        },
    },
    "error_code":0
}

/*Step2*/
POST https://device_addr:443/openapi/initialize HTTP/1.1
Content-Type: application/json
Content-Length: xxx
{
    "method":"setPassword",

```

```

    "params":
    {
      "encrypted_password":
      "jHICNL1ub1zG0XRCn5ITRH3EoHf4V9dJrPUvsVV%2BqcwLA4oK09KvPxNGYfcJ348t3%2FjSzISFTmG
      Xb5EShaNj5Rd2LW5PmVZCqa4laKBt5tLJBwR4iZcnqF%2BqRCgJvRoeSM0S%2F9cTDJ32snKCGkB
      W4wwTKcFaA0d0jIfpmRG72zbwebRor1YycCalvorLisOORkyKXdLBT9xBkk018FAvFVYqyrnNVz1H711x
      kgLEdfUBE5S3GyP4z1ygBjyRH%2FUwIHPoRCOUjcrcaLQUXzlovkjaZn6Cb8OGbrvzPzJ9KZVvpsWQN
      FlrQz%2Fq%2FK5dix7PC7BRcj%2BKDRSxrRLIsTEi%2Bw%3D%3D"
    }
  }

/*reply*/
HTTP/1.1 200 OK
Cache-Control: no-cache
Content-Type: application/json
Content-Length: xxx
{
  "method": "setPassword",
  "error_code": 0
}

```

2.4.2 getEncryptInfo

Name	Content	
method	getEncryptInfo	
Description	This API is used for getting the RSA public key.	
Request	NULL	
Response	rsakey	String. RSA public key.
Example	request: <pre> { "method": "getEncryptInfo", } </pre>	

	response: <pre>{ "method": "getEncryptInfo", "result": { "encryptInfo": { "rsaKey": "MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAvS5eDixC kjHv%2bpFljg6tTnxIsCQDY3ar1MZKS3a3qmnWqvMjAJm7F8I064FO m3G9fTRPg4TwwzZ4f%2fjhox0K%2b9ANZWgQOef7QXs7I%2b0z0 0Q%2fxHMqWY6AQnni1iz8KPFWI%2bQNY7V9itq5MLg3olmBOtY2v mPpQnyW8rTzU4tLemMmkdh82KpwckOm2xUoz2z3YyOZ0PymVJD KVfpNx9U%2fw%2bXcHHw9fdCci2vHPhp%2bEaBfdBeq9eGyMJOF kDrYCuYVRdJb7xuCmxFu3NsT61F2EGykLTljgCPd%2fN7dJFvD1Qmg RoCtMp8OFdsICBgGNmocDqGstGEmbPbvUQI2wmVCQIDAQAB" }, }, "error_code":0 }</pre>
--	---

2.4.3 setPassword

Name	Content	
Command	setPassword	
Description	This API is used for setting the password.	
Request	encrypted_password	String. Ciphertext of the password encrypted by the RSA public key.
Response	NULL	
Example	request: <pre>{ "method": "setPassword", "params": { "encrypted_password": "jHICNL1ub1zG0XRCn5ITRH3EoHf4V9dJrPUvsVV%2BqcwLA4oK09K vPxNGYfcJ348t3%2FjSzISFTmGXb5EShaNj5Rd2LW5PmVZCqa4laKB"</pre>	

	<pre>t5tLJBwR4iZcnqF%2BqRCgJvRoeSM0S%2F9cTDJ32snKCGkBW4w wTKcFaA0d0jlfpmRG72zbwebRor1YycCalvorLIsOORkyKXdLBT9xBkk 018FAvFVYqyrnNVz1H711xkgLEdfUBE5S3GyP4z1ygBjyRH%2FUwIHPo RCOUjcrcaLQUXzlovkjaZn6Cb8OGBrvzPzJ9KZVvpsWQNFlrQz%2Fq %2FK5dix7PC7BRcj%2BKDRSxrRLIsTEi%2Bw%3D%3D" } }</pre>
	<pre>response: { "method": "setPassword", "error_code": 0 }</pre>

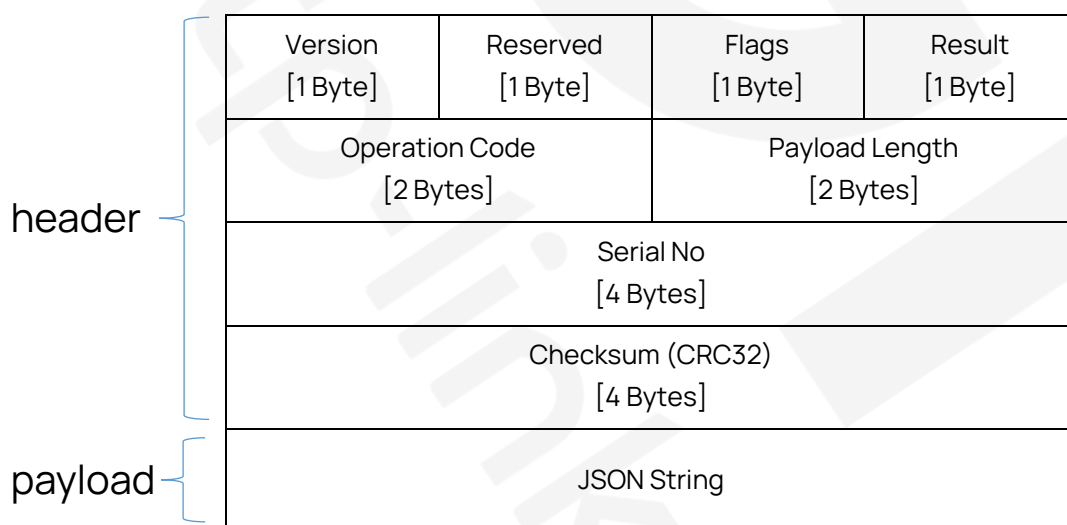
3. OpenAPI Discovery Protocol

OpenAPI Discovery Protocol (ODP) is a device discovery protocol used for OpenAPI. In broadcast or unicast mode, the OpenAPI Discovery Protocol (ODP) can be used to obtain summary information on the same network segment, across network segments, or a specific host.

The ODP local service ports are 23001 and 5001 (only 5001 is available before initialization), and the protocol type field in the Ethernet package is 0x7210.

3.1 ODP packet

Please see the following figure for the format of ODP packet:



The fields are described as follows:

fields	Size(byte)	value	description
Version	1	t_uint8	Payload format version. Currently, the defined version is 0x01.
Reserved	1	t_uint8	Reserved field. Currently, the defined value is 0x00.
Flags	1	ODP_FLAG_NONE 0x00	Tag fields, which support many functions, Currently in effect are: REQUEST REPLY BROADCAST UNICAST
		ODP_FLAG_REPLY 0x01	
		ODP_FLAG_REQUEST 0x02	
		ODP_FLAG_COMPRESS 0x04	
		ODP_FLAG_ENCRYPT 0x08	
		ODP_FLAG_UNICAST 0x10	
		ODP_FLAG_BROADCAST 0x20	
		ODP_FLAG_ALL 0xff	
Result	1	ODP_RET_OK 0x01	success
		ODP_RET_ERR 0xff	Packet error
Operation Code	2	t_uint16	Operation code. Currently, the defined operation code is 0x01
Payload Length	2	t_uint16	Payload length
Serial No.	4	t_uint32	The serial number of the request and the reply must be consistent. Anti-attack processing, ensuring that only sent request packets are processed. The exception is broadcast mode.
Checksum	4	t_uint32	MAGIC CODE, Check for the entire package 0x77805D05
Payload		t_int8 *	

3.2Reply packet format

The format of payload content in the reply packet on the device is as follows:

fields		description
error_code int		Error code. 0 indicates that the execution succeeds. Otherwise, the execution fails. The specific error value is to be defined.
result	device_name String	Device name
	device_type String	Device type (such as "IPCAM")
	device_model String	Equipment model
	ip String	Device IP address

	mac String	MAC address of the device (format: XX-XX-XX-XX-XX-XX, in all uppercase) (Unique identifier of the device)
	factory_default Bool	Whether it is in factory default condition. true indicates factory status; otherwise, non-factory status.
	openapi_port int	The port number of the OpenAPI control protocol.
	openapi_version String	The version of the OpenAPI control protocol.

The following is an example of device reply data:

```
{
  "error_code": 0,
  "result": {
    "device_name": "XXXXXX",
    "device_type": "XXXXXX",
    "device_model": "XXXXXX",
    "ip": "192.168.0.60",
    "mac": "AA-BB-CC-DD-EE-FF",
    "factory_default": false,
    "openapi_port": 20443,
    "openapi_version": "1.3"
  }
}
```

4. OpenAPI Control Interface

The APIs in this section use the HTTPS protocol. See 2.1.2 for the format of the request.

4.1 Special Interface

4.1.1 doAuth

Name	Content	
Command	doAuth	
Description	This API is used for Auth, requires the password of admin.	
Request	nonce	String. The value needs to be the same as the nonce returned by the IPC.
	response	String. The value is calculated based on the password of the IPC and the authenticate field returned. If the algorithm returned by the ipc is SHA-256, the calculation method is as follows: A1 = SHA256(admin:realm:password) A2 = SHA256(method:uri)

		response = SHA256(A1:nonce:A2)
Response	stok	String. Token required for control protocol instruction authentication. All other control interfaces need to carry tokens. The token aging time is half an hour
	realm	String. Calculate the value required for the response.
	nonce	String. Calculate the value required for the response. In addition, the nonce needs to be sent synchronously with the response when sending the request.
	algorithm	String. The algorithm used to calculate the response.
	method	String. Calculate the value required for the response.
	uri	String. Calculate the value required for the response.
Example	The process of using this API is as follows: First, you need to send a doAuth request with empty params, and the device will return the fields required for authentication. request: <pre>{ "method": "doAuth", "params": null }</pre> response: <pre>{ "method": "doAuth", "authenticate": { "realm": "TP-LINK IP-Camera", "nonce": "6220dc9a1eea3ad4608a6a780a7958eb", "algorithm": "SHA-256", "uri": "doAuth", "method": "POST" }, "errCode": -10020 }</pre> The response is then calculated based on these fields, and a	

	doAuth request with nonce and response is sent. request: <pre>{ "method": "doAuth", "params": { "nonce": "6220dc9a1eea3ad4608a6a780a7958eb", "response": "8fd7dad29e3fe169a566c164b83d8cf8671b9f1e42a179e6ee6c24c04acbbf4b" } }</pre> response: <pre>{ "method": "doAuth", "stok": "ym(WCEIUs8n4uv3*4J3SJ4o9v3nx94Ez", "errCode": 0 }</pre>
--	---

4.1.2 getModuleList

Name	Content			
Command	getModuleList			
Description	This API is used for getting module list.			
Request	NULL			
Response	openapi_version	String. The version of the OpenAPI control protocol.		
	moduleList	array	name	String. The module name.
			version	Int. The version of the current.
Example	request: <pre>{ "method": "getModuleList" }</pre>			

response:

```
{
  "method": "getModuleList",
  "result": {
    "openapi_version": "1.3",
    "moduleList": [
      {
        "name": "system",
        "version": 1
      },
      {
        "name": "dateTime",
        "version": 1
      },
      {
        "name": "audio_speaker",
        "version": 1
      },
      {
        "name": "audio_microphone",
        "version": 1
      },
      {
        "name": "video",
        "version": 1
      },
      {
        "name": "dayNightMode",
        "version": 1
      },
      {
        "name": "sdCard",
        "version": 1
      },
      {
        "name": "motionDetection",
        "version": 1
      }
    ]
  }
}
```

```

    },
    {
      "name": "sound_alarm_enabled",
      "version": 1
    },
    {
      "name": "light_alarm_enabled",
      "version": 1
    },
    {
      "name": "ptz",
      "version": 1
    },
    {
      "name": "playback",
      "version": 1
    },
    {
      "name": "download",
      "version": 1
    },
    {
      "name": "StreamPort",
      "version": 1
    }
  ]
},
"errCode": 0
}

```

The current module and its corresponding version are shown in following Table:

Name	Version
system	1
dateTime	1
audio_speaker	1
audio_microphone	1

video	1
dayNightMode	1
sdCard	1
motionDetection	1
CrossLineDetection	1
InvasionDetection	1
AreaEntryDetection	1
AreaLeaveDetection	1
PeopleDetection	1
VehicleDetection	1
DropAndTakeDetection	1
tamperDetection	1
sound_alarm_enabled	1
light_alarm_enabled	1
ptz	1
playback	1
download	1
StreamPort	1
msgPush	1
recordSchedule	1
ptz_zoom	1
LoiterDetection	1
SceneChangeDetection	1
AudioAnomalyDetection	1

4.2 system

4.2.1 getDeviceInfo

Name	Content		
method	getDeviceInfo		
Description	This API is used for getting the device information.		
Request	NULL		
Response	deviceInfo	alias	String. The alias of the device.
		type	String. Device type.
		model	String.
		mac	String. The MAC address in the format like 'AA-BB-CC-DD-EE-FF'.

		hwId	String. HW_ID
		oemId	String. OEM_ID
		deviceId	String. Device id
		hwVer	String. Hardware version.
		swVer	String. Software version with country code.
Example	request: <pre>{ "method": "getDeviceInfo" }</pre>		
	response: <pre>{ "method": "getDeviceInfo", "errCode": 0, "result": { "alias": "openapi-test", "type": "SECUR.IPCAM", "model": "VIGI C540S", "mac": "00-0A-EB-01-88-11", "hwId": "5AC4CF9E3183C16825EB28BC3C27059C", "oemId": "A4551BD7CF274B28C532A79E87B9FFB5", "deviceId": "80217D4B87B119E91F1EB085EE1000C100112001", "hwVer": "1.0", "swVer": "1.0.0 Build 202011 Rel.65962n" } }</pre>		

4.2.2 setDeviceAlias

Name	Content
Command	setDeviceAlias
Description	This API is used for setting device alias.

Request	alias	String. Device alias.
Response	NULL	
Example	request: <pre>{ "method": "setDeviceAlias", "params": { "alias": "VIGI C230 1.0" } }</pre>	
	response: <pre>{ "method": "setDeviceAlias", "errCode": 0, }</pre>	

4.2.3 getDeviceAlias

Name	Content	
Command	getDeviceAlias	
Description	This API is used for getting device alias.	
Request	NULL	
Response	alias	String. Device alias.
Example	request: <pre>{ "method": "getDeviceAlias" }</pre>	

	response: <pre>{ "method": "getDeviceAlias", "errCode": 0, "result": { "alias": "VIGI C540-W 2.0" } }</pre>
--	---

4.2.4 searchSystemLog

Name	Content	
Command	searchSystemLog	
Description	This API is used to search system logs.	
Request	start_time	String. The syslog start time of the query, the number of seconds since 1970.1.1 zero to the present
	end_time	String. The syslog end time of the query, the number of seconds since 1970.1.1 zero to the present
	log_type	String. The type of system log The value ranges are as follows: all alarm exception operation information
Response	syslog	An array of logs
	syslog_xx	Specific information for each log entry. The content format of the log is: < number >date[module]message number: indicates the log type, 0 is all, 1 is alarm, 2 is exception, 3 is operation, and 4 is information date: The time the log was generated. The format is the number of seconds from January 1, 1970 to the present. module: The name of the module that generated the log

		message: The content of the log
	total	Total log entries, which refers to logs that meet the query criteria, not all logs
Example	request: <pre>{ "method": "searchSystemLog", "params": { "start_time": "1691976514", "end_time": "1692581314", "log_type": "all", } }</pre>	
	response: <pre>{ "method": "searchSystemLog", "result": { "syslog": [{ "syslog_1": "<4>1692612202[NSD][SNTPC]Init over" }, { "syslog_2": "<4>1692612202[NSD][TPNTP]Init over" }], "total": 2 }, "errCode": 0 }</pre>	

4.2.5 getDeviceStatus

Name	Content	
Command	getDeviceStatus	
Description	This API is used to getting device status.	
Request	NULL	
Response	device_model	String. Device model.
	dev_alias	String. Device alias.
	ip	String. IP of the device
	mac	String. MAC of the device
	link_status	Int. The connection status of the device range : 0 - Not connected 1 - Connected
	uptime	long long. Time from system boot to present (in seconds)
Example	request: <pre>{ "method": "getDeviceStatus" }</pre>	
	response: <pre>{ "method": "getDeviceStatus", "result": { "device_model": "VIGI C440", "dev_alias": "VIGI C440 2.0", "ip": "192.168.137.1", "mac": "00-ff-11-22-33-44", "link_status": 1, "uptime": 582 }, "errCode": 0 }</pre>	

4.3 dateTime

4.3.1 setTimeZone

Name	Content	
Command	setTimeZone	
Description	This API is used for setting time zone info.	
Request	timezone	String. Time zone, the format must be similar to "UTC+hh:mm" or "UTC-hh:mm".
	area	String. Reference to Appendix 3.
Response	NULL	
Example	request: <pre>{ "method": "setTimeZone", "params": { "timezone": "UTC-00:00", "area": "Europe/London" } }</pre>	
	response: <pre>{ "method": "setTimeZone", "errCode": 0, }</pre>	

4.3.2 getTimeZone

Name	Content	
Command	getTimeZone	
Description	This API is used for getting time zone info.	
Request	NULL	
Response	timezone	String. Time zone
	area	String.

Example	request: <pre>{ "method": "getTimeZone" }</pre>
	response: <pre>{ "method": "getTimeZone", "errCode": 0, "result": { "timezone": "UTC-00:00", "area": "Europe/London" } }</pre>

4.3.3 setSystemTime

Name	Content	
Command	setSystemTime	
Description	This API is used for setting the system time.	
Request	system_time	Int. Sets the current time, the number of seconds from 1970.1.1 to now, and must not be less than 946656000 (1/1/2000 0:0:0)
Response	NULL	
Example	request: <pre>{ "method": "setSystemTime", "params": { "system_time": 1692864317, } }</pre>	

	response: <pre>{ "method": "setSystemTime", "errCode": 0 }</pre>
--	--

4.3.4 getSystemTime

Name	Content	
Command	getSystemTime	
Description	This API is used for getting the system time.	
Request	NULL	
Response	system_time	Int. The current time of the system, the number of seconds since 1970.1.1 zero hour to the present
Example	request: <pre>{ "method": "getSystemTime" }</pre>	
	response: <pre>{ "method": "getSystemTime", "result": { "system_time": 1692862677 }, "errCode": 0 }</pre>	

4.3.5 getTimeBasic

Name	Content	
Command	getTimeBasic	
Description	This API is used for getting the system time format.	
Request	NULL	
Response	time_format	Int. Range [0, 1], 0: 24-hour clock, for example:

		14:30:00, 09:30:00, 1: 12 hour clock, for example: 02:30:00PM, 09:30:00AM, The time format of the system.
	date_format	Int. Date format configuration, value range: 0: YYYY-MM-DD, 1: MM-DD_YYYY, 2: DD_SMM_YYYY.
	timing_mode	String. Range [manual,ntp], The time synchronization method of the system.
Example	request: <pre>{ "method": "getTimeBasic" }</pre>	
	response: <pre>{ "method": "getTimeBasic", "result": { "time_format": 0, "date_format": 0, "timing_mode": "manual" }, "errCode": 0 }</pre>	

4.3.6 setTimeBasic

Name	Content	
Command	setTimeBasic	
Description	This API is used for setting the system time format.	
Request	time_format	Int. Range [0, 1], 0: 24-hour clock, for example: 14:30:00, 09:30:00, 1: 12 hour clock, for example: 02:30:00PM, 09:30:00AM, The time format of the system.
	date_format	Int. Date format configuration, value range: 0: YYYY-MM-DD, 1: MM-DD_YYYY, 2: DD_SMM_YYYY.
	timing_mode	String. Range [manual,ntp], The time synchronization method of the system.

Response	NULL
Example	request: <pre>{ "method": "setTimeBasic", "params": { "time_format": 0, "date_format": 0, "timing_mode": "manual" } }</pre>
	response: <pre>{ "method": "setTimeBasic", "errCode": 0 }</pre>

4.3.7 getNtp

Name	Content	
Command	getNtp	
Description	This API is used for getting the system NTP Settings.	
Request	NULL	
Response	server	String. Customize the NTP server address, which is used in conjunction with the port field.
	interval	Int. The time synchronization interval of the NTP server, in minutes.
	timing_mode	String. Range [manual,ntp], The time synchronization method of the system.
	port	Int. Customize the NTP server port.
Example	request: <pre>{ "method": "getNtp" }</pre>	

	response: <pre>{ "method": "getNtp", "result": { "timing_mode": "manual", "server": "0.0.0.0", "interval": 60, "port": 123 }, "errCode": 0 }</pre>
--	--

4.3.8 setNtp

Name	Content	
Command	setNtp	
Description	This API is used for setting the system NTP Settings.	
Request	server	String. Customize the NTP server address, which is used in conjunction with the port field.
	interval	Int. The time synchronization interval of the NTP server, in minutes.
	timing_mode	String. Range [manual,ntp], The time synchronization method of the system.
	port	Int. Customize the NTP server port.
Response	NULL	
Example	request: <pre>{ "method": "setNtp", "params": { "timing_mode": "manual", "server": "0.0.0.0", "interval": 60, "port": 123 } }</pre>	

	response: <pre>{ "method": "setNtp", "errCode": 0 }</pre>
--	---

4.4 audio

4.4.1 setSpeakerVolume

Name	Content		
Command	setSpeakerVolume		
Description	This API is used for setting speaker volume.		
Request	<table> <tr> <td>volume</td><td>Int. Range [0-100], for current speaker volume.</td></tr> </table>	volume	Int. Range [0-100], for current speaker volume.
volume	Int. Range [0-100], for current speaker volume.		
Response	NULL		
Example	request: <pre>{ "method": "setSpeakerVolume", "params": { "volume": 50 } }</pre>		
	response: <pre>{ "method": "setSpeakerVolume", "errCode": 0 }</pre>		

4.4.2 getSpeakerVolume

Name	Content
Command	getSpeakerVolume
Description	This API is used for getting speaker volume.

Request	NULL	
Response	volume	Int. Range [0-100], for current speaker volume.
Example	request: <pre>{ "method": "getSpeakerVolume" }</pre>	
	response: <pre>{ "method": "getSpeakerVolume", "errCode": 0, "result": { "volume": 50 } }</pre>	

4.4.3 setMicrophoneVolume

Name	Content	
Command	setMicrophoneVolume	
Description	This API is used for setting microphone volume.	
Request	volume	Int. Range [0-100], for current microphone volume.
Response	NULL	
Example	request: <pre>{ "method": "setMicrophoneVolume", "params": { "volume": 50 } }</pre>	

	response: <pre>{ "method": "setMicrophoneVolume", "errCode": 0 }</pre>
--	--

4.4.4 getMicrophoneVolume

Name	Content
Command	getMicrophoneVolume
Description	This API is used for getting microphone volume.
Request	NULL
Response	volume Int. Range [0-100], for current microphone volume.
Example	request: <pre>{ "method": "getMicrophoneVolume" }</pre>
	response: <pre>{ "method": "getMicrophoneVolume", "errCode": 0, "result": { "volume": 50 } }</pre>

4.4.5 getAudioCapability

Name	Content
Command	getAudioCapability
Description	This API is used for getting the audio capability.
Request	NULL
Response	speaker/microphone Volume: string, 1- Configuration is supported.

		0- Configuration is not supported
Example	request: <pre>{ "method": "getAudioCapability", }</pre>	
	response: <pre>{ "method": "getAudioCapability", "errCode": 0, "result": { "speaker": { "volume": "1" }, "microphone": { "volume": "1" } } }</pre>	

4.4.6 getAudioEncode

Name	Content	
Command	getAudioEncode	
Description	This API is used for getting the audio encode type.	
Request	NULL	
Response	encode_type	Srting. Include field encode type.

Example	request: <pre>{ "method": "getAudioEncode", }</pre>
	response: <pre>{ "method": "getAudioEncode", "result": { "encode_type": "G711alaw" }, "errCode": 0 }</pre>

4.4.7 setAudioEncode

Name	Content	
Command	setAudioEncode	
Description	This API is used for setting audio encode type.	
Request	encode_type	String. Include field encode type.
Response	NULL	
Example	request: <pre>{ "method": "setAudioEncode", "params": { "encode_type": "G711alaw" } }</pre>	
	response: <pre>{ "method": "setAudioEncode", "errCode": 0 }</pre>	

	}
--	---

4.4.8 getUserAudioInfo

Name	Content	
Command	getUserAudioInfo	
Description	This API is used for getting user audio info.	
Request	NULL	
Response	id	Int. It must be 101 or 102 or 103, any other id is invalid.
	name	String. The file name.
	digest	String. The MD5 value of uploaded audio encoded with base64.
Example	request: <pre>{ "method": "getUserAudioInfo" }</pre>	
	response: <pre>{ "method": "getUserAudioInfo", "errCode": 0, "result": [{ "file_1": { "id": 101, "name": "1123", "digest": "pvfW0GkHGo00GHvfZFhUpw==" } }, { "file_2": { "id": 102, "name": "852", "digest": "dafIAKJdkdjkdqLKlmd00f==" } }, { "file_3": { "id": 103, "name": "963", "digest": "fdIfp00ddKKSD0dsddvUpw==" } }], }</pre>	

4.4.9 getAudioAlarmType

Name	Content	
Command	getAudioAlarmType	
Description	This API is used to get audio alarm file type.	
Request	NULL	
Response	alarm_type	String. The audio file name.
	id	String. The id of audio file. Id 0 and 1 are the system audio, and Id 101, 102 and 103 are the user audio.
Example	request: <pre>{ "method": "getAudioAlarmType " }</pre>	
	response: <pre>{ "method": "getAudioAlarmType", "result": { "alarm_type": "SystemAudio2", "id": "1" }, "errCode": 0 }</pre>	

4.4.10 setAudioAlarmType

Name	Content	
Command	setAudioAlarmType	
Description	This API is used to config audio alarm file.	
Request	id	String. The id of audio file. It must be 0 or 1 (system audio), 101 or 102 or 103 (user audio).
Response	NULL	

Example	request: <pre>{ "method": "setAudioAlarmType", "params": { "id": "101" } }</pre>
	response: <pre>{ "method": "setAudioAlarmType", "errCode": 0 }</pre>

4.4.11 testAudioFile

Name	Content	
Command	testAudioFile	
Description	This API is used to test audio file or play audio file once.	
Request	id	String. The id of audio file. It must be 0 or 1 (system audio), 101 or 102 or 103 (user audio).
Response	NULL	
Example	request: <pre>{ "method": "testAudioFile", "params": { "id": "101" } }</pre>	
	response: <pre>{ "method": "testAudioFile", "errCode": 0 }</pre>	

4.5 video

4.5.1 setResolution

Name	Content	
Command	setResolution	
Description	This API is used for setting stream resolution.	
Request	main_resolution	String. For example, "2560*1440" Range reference interface 'getVideoCapability'
	minor_resolution	String. For example, "640*480" Range reference interface 'getVideoCapability'
	At least one in main/minor_resolution	
Response	NULL	
Example	request: <pre>{ "method": "setResolution", "params": { "main_resolution": "2560*1440", "minor_resolution": "640*480" } }</pre>	
	response: <pre>{ "method": "setResolution", "errCode": 0 }</pre>	

4.5.2 getResolution

Name	Content
Command	getResolution
Description	This API is used for getting stream resolution.
Request	NULL

Response	resolution	string
Example	request: <pre>{ "method": "getResolution", }</pre>	
	response: <pre>{ "method": "getResolution", "result": { "main": { "resolutions": "2560*1440" }, "minor": { "resolutions": "640*480" } }, "errCode": 0 }</pre>	

4.5.3 getVideoCapability

Name	Content	
Command	getVideoCapability	
Description	This API is used for getting the video capability.	
Request	NULL	
Response	resolutions	Array<string>. The option of resolutions.
Example	request: <pre>{ "method": "getVideoCapability" }</pre>	

```

response:
{
  "method": "getVideoCapability",
  "result": {
    "main": {
      "resolutions": [
        "2560*1440",
        "2304*1296",
        "2048*1280",
        "1920*1080",
        "1280*720"
      ]
    },
    "minor": {
      "resolutions": [
        "640*480",
        "352*288",
        "320*240"
      ]
    }
  },
  "errCode": 0
}

```

4.5.4 getVideoCode

Name	Content	
Command	getVideoCode	
Description	This API is used for getting the video encode type.	
Request	NULL	
Response	main_encode_type	String. The option of main_encode_type.
	minor_encode_type	String. The option of minor_encode_type.

Example	request: <pre>{ "method": "getVideoCode" }</pre>
	response: <pre>{ "method": "getVideoCode", "result": { "main_encode_type": "H265", "minor_encode_type": "H264" }, "errCode": 0 }</pre>

4.5.5 setVideoCode

Name	Content	
Command	setVideoCode	
Description	This API is used for setting stream encode type.	
Request	main_encode_type	String. For example, "H265" Range reference interface 'getVideoCode'
	minor_encode_type	String. For example, "H264" Range reference interface 'getVideoCode'
	At least one in main/minor_encode_type	
Response	NULL	
Example	request: <pre>{ "method": "setVideoCode", "params": { "main_encode_type": "H265", "minor_encode_type": "H264" } }</pre>	

	response: <pre>{ "method": "setVideoCode", "errCode": 0 }</pre>
--	---

4.5.6 getFrameRate

Name	Content	
Command	getFrameRate	
Description	This API is used for getting the video frame rate.	
Request	NULL	
Response	main_frame_rate	String. The option of main_frame_rate.
	minor_frame_rate	String. The option of minor_frame_rate.
Example	request: <pre>{ "method": "getFrameRate" }</pre>	
	response: <pre>{ "method": "getFrameRate", "result": { "main_frame_rate": "65561", "minor_frame_rate": "65561" }, "errCode": 0 }</pre>	

4.5.7 setFrameRate

Name	Content	
Command	setFrameRate	
Description	This API is used for setting stream encode type.	
Request	main_frame_rate	String. The option of main_frame_rate..
	minor_frame_rate	String. The option of minor_frame_rate.

	At least one in main/minor_frame_rate
Response	NULL
Example	request: <pre>{ "method": "setFrameRate", "params": { "main_frame_rate": "65561", "minor_frame_rate": "65561" } }</pre>
	response: <pre>{ "method": "setFrameRate", "errCode": 0 }</pre>

4.5.8 getBitrateType

Name	Content	
Command	getBitrateType	
Description	This API is used for getting the video bitrate type.	
Request	NULL	
Response	main_bitrate_type	String. The option of main_bitrate_type.
	minor_bitrate_type	String. The option of minor_bitrate_type.
Example	request: <pre>{ "method": "getBitrateType" }</pre>	
	response: <pre>{ "method": "getBitrateType", "result": { "main_bitrate_type": "cbr", </pre>	

	<pre> "minor_bitrate_type": "cbr" }, "errCode": 0 } </pre>
--	--

4.5.9 setBitrateType

Name	Content	
Command	setBitrateType	
Description	This API is used for setting video bitrate type.	
Request	main_bitrate_type	String. For example, "cbr" Range reference interface 'getBitrateType'.
	minor_bitrate_type	String. For example, "cbr" Range reference interface 'getBitrateType'.
	At least one in main/minor_bitrate_type	
Response	NULL	
Example	request: <pre> { "method": "setBitrateType", "params": { "main_bitrate_type": "cbr", "minor_bitrate_type": "cbr" } } </pre>	
	response: <pre> { "method": "setBitrateType", "errCode": 0 } </pre>	

4.5.10 getBitrate

Name	Content
Command	getBitrate
Description	This API is used for getting the video bitrate.

Request	NULL	
Response	main_bitrate	String. The option of main_bitrate.
	minor_bitrate	String. The option of minor_bitrate.
Example	request: <pre>{ "method": "getBitrate" }</pre>	
	response: <pre>{ "method": "getBitrate", "result": { "main_bitrate": "2560", "minor_bitrate": "512" }, "errCode": 0 }</pre>	

4.5.11 setBitrate

Name	Content	
Command	setBitrate	
Description	This API is used for setting video bitrate.	
Request	main_bitrate	String. Bitrate of main stream.
	minor_bitrate	String. Bitrate of minor stream.
	At least one in main/minor_bitrate	
Response	NULL	
Example	request: <pre>{ "method": "setBitrate", "params": { "main_bitrate": "2560", "minor_bitrate": "512" } }</pre>	

	}
	response: <pre>{ "method": "setBitrate", "errCode": 0 }</pre>

4.6 dayNightMode

4.6.1 setDayNightMode

Name	Content	
Command	setDayNightMode	
Description	This API is used for setting day and night mode.	
Request	mode	String. {"auto", "day", "night"}
Response	NULL	
Example	request: <pre>{ "method": "setDayNightMode", "params": { "mode": "auto" } }</pre>	

	response: <pre>{ "method": "setDayNightMode", "errCode": 0 }</pre>
--	--

4.6.2 getDayNightMode

Name	Content	
Command	getDayNightMode	
Description	This API is used for getting day and night mode.	
Request	NULL	
Response	mode	String. {"auto", "day", "night"}
Example	request: <pre>{ "method": "getDayNightMode" }</pre>	
	response: <pre>{ "method": "getDayNightMode", "errCode": 0, "result": { "mode": "auto" } }</pre>	

4.7 sdCard

4.7.1 formatSdCard

Name	Content	
Command	formatSdCard	
Description	This API is used for formatting sd card.	
Request	card_index	Int. SD card disk index. (At present, IPC only has one

		sd card, so it is limited to 1)
Response	NULL	
Example	request: <pre>{ "method": "formatSdCard", "params": { "card_index": 1 } }</pre>	
	response: <pre>{ "method": "formatSdCard", "errCode": 0 }</pre>	

4.7.2 getSdCardStatus

Name	Content		
method	getSdCardStatus		
Description	This API is used for getting the status of sd card.		
Request	NULL		
Response	sdCardInfo	card_index	Int. SD card disk index.
		rw_attr	String. {"w", "r", "rw"} harddisk read and write permissions.
		status	String. {"normal", "unformatted", "formatting", "abnormal", "offline", "insufficient"}, sd card status.
		detect_status	String. {"normal", "detecting", "dilatant", "dilatant_suspect", "low_speed", "fail"}.
		write_protect	String. {"0", "1"} write

			protection.
	percent		String. Percentage of sd card formatting.
	type		String. {"local", "remote"} type of disk.
	record_duration		String. Length of recorded video ,unit is second.
	record_free_duration		String. The length of video that can be recorded with the remaining disk space.
	record_start_time		String. The start recording seconds since 0:00 on January 1, 1970
	loop_record_status		String. {"0", "1"} indicates whether the disk is in a circular overwrite state.
	total_space		String. Total space of harddisk
	free_space		String. Free space of harddisk
	video_total_space		String. Total space of video
	video_free_space		String. Free space of video
	picture_total_space		String. Total space of picture
	picture_free_space		String. Free space of picture
	msg_push_total_space		String. Total space of push message
	msg_push_free_space		String. Free space of push message
Example	request: <pre>{ "method": "getSdCardStatus", }</pre>		

response:

```
{
  "method": "getSdCardStatus",
  "errCode": 0,
  "result": {
    "card_index": 1,
    "rw_attr": "rw",
    "status": "normal",
    "detect_status": "normal",
    "write_protect": "0",
    "percent": "100",
    "type": "local",
    "record_duration": "3549",
    "record_free_duration": "2586875",
    "record_start_time": "1584341988",
    "loop_record_status": "0",
    "total_space": "119.1GB",
    "free_space": "118.4GB",
    "video_total_space": "118.3GB",
    "video_free_space": "118.0GB",
    "picture_total_space": "1.0MB",
    "picture_free_space": "1.0MB",
    "msg_push_total_space": "210.0MB",
    "msg_push_free_space": "210.0MB"
  }
}
```

4.8 Event Detection

4.8.1 setMotionDetectionSwitch

Name	Content
Command	setMotionDetectionSwitch
Description	This API is used for setting motion detection switch.

Request	enabled	String. {"on", "off"}, open/close motion detection switch, default is "on".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for motion detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for motion detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for motion detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for motion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
	sensitivity	Int. Range [1,100]. The sensitivity of motion detection, the higher the sensitivity, the easier it is to generate motion detection
	people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Response	NULL	

Example	request: <pre> { "method": "setMotionDetectionSwitch", "params": { "enabled": "on", "sensitivity": 75, "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "on", "record_enabled": "on", "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "low", } }</pre>
	response: <pre> { "method": "setMotionDetectionSwitch", "errCode": 0 }</pre>

4.8.2 getMotionDetectionSwitch

Name	Content	
Command	getMotionDetectionSwitch	
Description	This API is used for getting motion detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close motion detection switch, default is "on".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for motion detection, default is "off".

	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for motion detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for motion detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for motion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
	sensitivity	Int. Range [1,100]. The sensitivity of motion detection, the higher the sensitivity, the easier it is to generate motion detection
	people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Example	request: <pre>{ "method": "getMotionDetectionSwitch" }</pre>	

response:

```
{
  "method": "getMotionDetectionSwitch",
  "errCode": 0,
  "result": {
    "enabled": "on",
    "sensitivity": 75,
    "sound_alarm_enabled": "off",
    "light_alarm_enabled": "off",
    "msg_push_enabled": "on",
    "record_enabled": "on",
    "people_enhance": "off",
    "vehicle_enhance": "off",
    "enhance_validity": "low"
  }
}
```

4.8.3 setMotionDetectionRegion

Name	Content		
Command	setMotionDetectionRegion		
Description	This API is used for setting motion detection region. The interface clears the original zone before adding new zones.		
Request	set_region_info	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
		points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
Response	NULL		

Example	request: <pre> { "method": "setMotionDetectionRegion", "params": { "set_region_info":[{ "points_num": 4, "points_x": [1774,3850,6229,6270], "points_y": [5994,2795,2096,8870] }, { "points_num": 4, "points_x": [7762,9193,9717,7721], "points_y": [1774,2983,7043,9731] }] } } </pre>
	response: <pre> { "method": "setMotionDetectionRegion", "errCode": 0 } </pre>

4.8.4 getMotionDetectionRegion

Name	Content	
Command	getMotionDetectionRegion	
Description	This API is used for getting motion detection region.	
Request	NULL	
Response	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area.

	<table> <tr> <td>points_x</td><td>Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]</td></tr> <tr> <td>points_y</td><td>Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]</td></tr> </table>	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]				
points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]				
Example	request: <pre>{ "method": "getMotionDetectionRegion" }</pre> response: <pre>{ "method": "getMotionDetectionRegion", "result": { "region_info_1": { "points_num": 4, "points_x": [7762, 9193, 9717, 7721], "points_y": [1774, 2983, 7043, 9731] }, "region_info_2": {</pre>				

```
        "points_num": 4,
        "points_x": [
            806,
            4536,
            5262,
            2883
        ],
        "points_y": [
            2123,
            1935,
            5564,
            8736
        ]
    },
    "region_info_3": {
        "points_num": 4,
        "points_x": [
            5120,
            5927,
            6189,
            5866
        ],
        "points_y": [
            8198,
            5188,
            6532,
            8064
        ]
    }
},
"errCode": 0
}
```

4.8.5 setCrosslineDetectionSwitch

Name	Content	
Command	setCrosslineDetectionSwitch	
Description	This API is used for setting Crossline detection switch.	
Request	enabled	String. {"on", "off"}, open/close crossline detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for crossline detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for crossline detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for crossline detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for crossline detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre>{ "method": "setCrosslineDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "on", "record_enabled": "on" } }</pre>	

response:

```
{
    "method": "setCrosslineDetectionSwitch",
    "errCode": 0
}
```

4.8.6 getCrosslineDetectionSwitch

Name	Content	
Command	getCrosslineDetectionSwitch	
Description	This API is used for getting Crossline detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close crossline detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for crossline detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for crossline detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for crossline detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for crossline detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.

Example	request: <pre>{ "method": "getCrosslineDetectionSwitch", }</pre>
	response: <pre>{ "method": "getCrosslineDetectionSwitch", "result": { "enabled": "on", "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "msg_push_enabled": "on", "record_enabled": "on" }, "errCode": 0 }</pre>

4.8.7 setCrosslineDetectionRegion

Name	Content		
Command	setCrosslineDetectionRegion		
Description	This API is used for setting Crossline detection region. The interface clears the original zone before adding new zones.		
Request	set_region_info	id	Int. Range [1, 4], the id of Crossline Detection Region.
		points_num	Int. The number of point set elements that make up the detected polyline area. The maximum can be 5.
		direction	String. {"AtoB" "BtoA" "both"}. The cordon has two points pt1

	and pt2, palm down the left hand, four fingers together, thumb perpendicular to the four fingers, the base of the left hand is placed on pt1, four fingers point to pt2, the thumb is on one side is A and the other side is B. "AtoB" refers to moving from side A to side B, "BtoA" refers to moving from side B to side A, and "both" means both. Value range: "AtoB" "BtoA" "both".
points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]
points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
sensitivity	Int. Range [1,100]. The sensitivity of crossline detection, the higher the sensitivity, the easier it is to generate crossline detection
people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific

			object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
		enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Response	NULL		
Example	request: <pre> { "method": "setCrosslineDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "direction": "AtoB", "points_x": [0, 6666, 7777, 9999, 0], "points_y": [0, 7777, 5555, 2222, 0], "sensitivity": 50, "people_enhance": "on", "vehicle_enhance": "on", "enhance_validity": "medium" }, { "id": 2, "points_num": 2, "direction": "both", "points_x": [0, 8888, 0, 0, 0], "points_y": [0, 6677, 0, 0, 0], </pre>		

	<pre> "sensitivity": 70, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" }] } </pre>
	response: <pre> { "method": "setCrosslineDetectionRegion", "errCode": 0 } </pre>

4.8.8 getCrosslineDetectionRegion

Name	Content	
Command	getCrosslineDetectionRegion	
Description	This API is used for getting Crossline detection region.	
Request	NULL	
Response	id	Int. Range [1, 4], the id of Crossline Detection Region.
	points_num	Int. The number of point set elements that make up the detected polyline area. The maximum can be 5
	direction	String. {"AtoB" "BtoA" "both"}. The cordon has two points pt1 and pt2, palm down the left hand, four fingers together, thumb perpendicular to the four fingers, the base of the left hand is placed on pt1, four fingers point to pt2, the thumb is on one side is A and the other side is B. "AtoB" refers to moving from side A to side B, "BtoA" refers to moving from side B to side A, and "both" means both.

	Value range: "AtoB" "BtoA" "both".
points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points
points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points
sensitivity	Int. Range [1,100]. The sensitivity of crossline detection, the higher the sensitivity, the easier it is to generate crossline detection
people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Example	request: <pre>{ "method": "getCrosslineDetectionRegion" }</pre>
	response: <pre>{ "method": "getCrosslineDetectionRegion", "result": { "region_info_1": { "id": 1,</pre>

```

    "points_num": 4,
    "direction": "AtoB",
    "points_x": [
        0,
        6666,
        9999,
        0,
        0
    ],
    "points_y": [
        0,
        7777,
        0,
        0,
        0
    ],
    "sensitivity": 50,
    "people_enhance": "on",
    "vehicle_enhance": "on",
    "enhance_validity": "medium",
  }
},
"errCode": 0
}

```

4.8.9 setInvasionDetectionSwitch

Name	Content	
Command	setInvasionDetectionSwitch	
Description	This API is used for setting invasion detection switch.	
Request	enabled	String. {"on", "off"}, open/close invasion detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound

		alarm switch for invasion detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for invasion detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for invasion detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for invasion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre>{ "method": "setInvasionDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "on", "record_enabled": "on" } }</pre>	
	response: <pre>{ "method": "setInvasionDetectionSwitch", "errCode": 0 }</pre>	

4.8.10 getInvasionDetectionSwitch

Name	Content	
Command	getInvasionDetectionSwitch	
Description	This API is used for getting invasion detection switch.	
Request	enabled	String. {"on", "off"}, open/close invasion detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for invasion detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for invasion detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for invasion detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for invasion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre>{ "method": "getInvasionDetectionSwitch", }</pre>	
	response: <pre>{ "method": "getInvasionDetectionSwitch", "result": { "enabled": "on", "sound_alarm_enabled": "off",</pre>	

	<pre> "light_alarm_enabled": "off", "msg_push_enabled": "on", "record_enabled": "on" }, "errCode": 0 } </pre>
--	---

4.8.11 setInvasionDetectionRegion

Name	Content		
Command	setInvasionDetectionRegion		
Description	This API is used for setting invasion detection region. The interface clears the original zone before adding new zones.		
Request	set_region_info	id	Int. Range [1,4], the id of Invasion Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
		threshold	Int. Range [0,10]. Time threshold
		points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
		sensitivity	Int. Range [1,100]. The sensitivity of invasion detection, the higher the sensitivity, the easier it is to

			generate invasion detection
		percentage	Int. Range [1,100]
		people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
		vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
		enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Response	NULL		
Example	request: <pre>{ "method": "setInvasionDetectionRegion", "params": { "set_region_info": [{ "id": 2, "sensitivity": 75,</pre>		

	<pre> "points_num": 4, "points_x": [4112,6189,9012,8608], "points_y": [6290,3091,5645,9166], "threshold": "3", "percentage": "60", "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" }, { "id": 3, "sensitivity": 70, "points_num": 4, "points_x": [2000,3850,6229,6270], "points_y": [5994,2795,2096,8870], "threshold": "1", "percentage": "65", "people_enhance": "on", "vehicle_enhance": "on", "enhance_validity": "low" },] } </pre>
	response: <pre> { "method": "setInvasionDetectionRegion", "errCode": 0 } </pre>

4.8.12 getInvasionDetectionRegion

Name	Content
------	---------

Command	getInvasionDetectionRegion	
Description	This API is used for getting invasion detection region.	
Request	NULL	
Response	id	Int. Range [1, 4], the id of Invasion Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points
	sensitivity	Int. Range [1,100]. The sensitivity of invasion detection, the higher the sensitivity, the easier it is to generate invasion detection
	threshold	Int. Range [0, 10]. Time threshold
	percentage	Int. Range [1,100]
	people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement

Example	request: <pre>{ "method": "getInvasionDetectionRegion" }</pre> response: <pre>{ "method": "getInvasionDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [2500, 7500, 7500, 2500], "points_y": [2500, 2500, 7500, 7500], "sensitivity": 50, "threshold": 5, "percentage": 20, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" } } }</pre>
-----------------------	---

```

    }
  },
  "errCode": 0
}

```

4.8.13 setTamperDetectionSwitch

Name	Content	
Command	setTamperDetectionSwitch	
Description	This API is used for setting Tamper Detection switch	
Request	enabled	String. {"on", "off"}, open/close tamper detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of tamper detection, the higher the sensitivity, the easier it is to generate tamper detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for tamper detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for tamper detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for tamper detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for tamper detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	

Example	request: <pre> { "method": "setTamperDetectionSwitch", "params": { "enabled": "on", "sensitivity": 10, "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "on", "record_enabled": "on" } }</pre>
	response: <pre> { "method": "setTamperDetectionSwitch", "errCode": 0 }</pre>

4.8.14 getTamperDetectionSwitch

Name	Content	
Command	getTamperDetectionSwitch	
Description	This API is used for getting Tamper Detection switch	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close tamper detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of tamper detection, the higher the sensitivity, the easier it is to generate tamper detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for tamper detection, default is "off".

	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for tamper detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for tamper detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for tamper detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Example	request: <pre>{ "method": "getTamperDetectionSwitch" }</pre>	
	response: <pre>{ "method": "getTamperDetectionSwitch", "result": { "enabled": "off", "sensitivity": 10, "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "on", "record_enabled": "on" }, "errCode": 0 }</pre>	

4.8.15 setPeopleDetectionSwitch

Name	Content	
Command	setPeopleDetectionSwitch	
Description	This API is used for setting People Detection switch.	
Request	enabled	String. {"on", "off"}, open/close people detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of people detection, the higher the sensitivity, the easier it is to generate people detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for people detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for people detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for people detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for people detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre>{ "method": "setPeopleDetectionSwitch", "params": { "enabled": "on", "sensitivity": 10, "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "on",</pre>	

	<pre> "record_enabled": "on", } } </pre>
	<pre> response: { "method": "setPeopleDetectionSwitch", "errCode": 0 } </pre>

4.8.16 getPeopleDetectionSwitch

Name	Content	
Command	getPeopleDetectionSwitch	
Description	This API is used for getting People Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close people detection switch, default is "off".
	sensitivity	Int. range [1,100]. The sensitivity of people detection, the higher the sensitivity, the easier it is to generate people detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for people detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for people detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for people detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record

		switch for people detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Example	request: <pre>{ "method": "getPeopleDetectionSwitch" }</pre>	
	response: <pre>{ "method": "getPeopleDetectionSwitch", "result": { "enabled": "off", "sensitivity": 10, "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "msg_push_enabled": "off", "record_enabled": "off", }, "errCode": 0 }</pre>	

4.8.17 setPeopleDetectionRegion

Name	Content		
Command	setPeopleDetectionRegion		
Description	This API is used for setting People Detection region.		
Request	set_region_info	id	Int. Range [1, 4], the id of People Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that

			make up the detection area
		points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
Response	NULL		
Example	request: <pre>{ "method": "setPeopleDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [0, 10000, 10000, 0], "points_y": [0, 0, 10000, 10000] },] }, }</pre>		
	response: <pre>{ "method": "setPeopleDetectionRegion", "errCode": 0 }</pre>		

4.8.18 getPeopleDetectionRegion

Name	Content	
Command	getPeopleDetectionRegion	
Description	This API is used for getting People Detection region.	
Request	NULL	
Response	id	Int. Range [1, 4], the id of People Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000]
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
Example	request: <pre>{ "method": "getPeopleDetectionRegion" }</pre>	
	response: <pre>{ "method": "getPeopleDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [0, 10000, 10000,</pre>	

```

    0
  ],
  "points_y": [
    0,
    0,
    10000,
    10000
  ]
}
},
"errCode": 0
}

```

4.8.19 setVehicleDetectionSwitch

Name	Content	
Command	setVehicleDetectionSwitch	
Description	This API is used for setting Vehicle Detection switch	
Request	enabled	String. {"on", "off"}, open/close vehicle detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of vehicle detection, the higher the sensitivity, the easier it is to generate vehicle detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for vehicle detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for vehicle detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for vehicle detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for vehicle detection, default is "on".

		But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre>{ "method": "setVehicleDetectionSwitch", "params": { "enabled": "on", "sensitivity": 20, "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", } }</pre>	
	response: <pre>{ "method": "setVehicleDetectionSwitch", "errCode": 0 }</pre>	

4.8.20 getVehicleDetectionSwitch

Name	Content	
Command	getVehicleDetectionSwitch	
Description	This API is used for getting Vehicle Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close vehicle detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of vehicle

	detection, the higher the sensitivity, the easier it is to generate vehicle detection
sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for vehicle detection, default is "off".
light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for vehicle detection, default is "off".
msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for vehicle detection, default is "on".
record_enabled	String. {"on", "off"}, open/close the record switch for vehicle detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Example	request: <pre>{ "method": "getVehicleDetectionSwitch" }</pre>
	response: <pre>{ "method": "getVehicleDetectionSwitch", "result": { "enabled": "off", "sensitivity": 50, "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "msg_push_enabled": "on", "record_enabled": "on" }, }</pre>

	<pre> "errCode": 0 } </pre>
--	---

4.8.21 setVehicleDetectionRegion

Name	Content		
Command	setVehicleDetectionRegion		
Description	This API is used for setting Vehicle Detection region.		
Request	set_region_info	id	Int. Range [1,4], the id of Vehicle Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
		points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
Response	NULL		
Example	request: <pre> { "method": "setVehicleDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], </pre>		

	<pre> "points_y": [1000, 1000, 9000, 9000] }, { "id": 2, "points_num": 4, "points_x": [0, 1000, 1000, 0], "points_y": [0, 0, 1000, 1000] },] }, }</pre>
	<pre> response: { "method": "setVehicleDetectionRegion", "errCode": 0 }</pre>

4.8.22 getVehicleDetectionRegion

Name	Content	
Command	getVehicleDetectionRegion	
Description	This API is used for getting Vehicle Detection region.	
Request	NULL	
Response	id	Int. Range [1, 4], the id of Vehicle Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]

Example	request: <pre>{ "method": "getVehicleDetectionRegion" }</pre>
	response: <pre>{ "method": "getVehicleDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [0, 10000, 10000, 0], "points_y": [0, 0, 10000, 10000] } }, "errCode": 0 }</pre>

4.8.23 setAreaEntryDetectionSwitch

Name	Content
------	---------

Command	setAreaEntryDetectionSwitch	
Description	This API is used for setting Area Entry Detection switch.	
Request	enabled	String. {"on", "off"}, open/close Area Entry detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Area Entry detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Area Entry detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Area Entry detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Area Entry detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre> { "method": "setAreaEntryDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", } }</pre>	

response:

```
{
    "method": "setAreaEntryDetectionSwitch",
    "errCode": 0
}
```

4.8.24 getAreaEntryDetectionSwitch

Name	Content	
Command	getAreaEntryDetectionSwitch	
Description	This API is used for getting Area Entry Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close Area Entry detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Area Entry detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Area Entry detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Area Entry detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Area Entry detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.

Example	request: <pre>{ "method": "getAreaEntryDetectionSwitch" }</pre>
	response: <pre>{ "method": "getAreaEntryDetectionSwitch", "result": { "enabled": "on", "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "msg_push_enabled": "on", "record_enabled": "on" }, "errCode": 0 }</pre>

4.8.25 setAreaEntryDetectionRegion

Name	Content		
Command	setAreaEntryDetectionRegion		
Description	This API is used for setting Area Entry Detection region		
Request	set_region_info	id	Int. Range [1,4], the id of Area Entry Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that make up the detection area.
		points_x	Array<int>. An array representing the x-

	coordinate of the i-th point in a set of points. x-range [0,10000]
points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000]
sensitivity	Int. Range [1,100]. The sensitivity of Area Entry detection, the higher the sensitivity, the easier it is to generate Area Entry detection.
people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement

			and vehicle enhancement.
Response	NULL		
Example	request: <pre> { "method": "setAreaEntryDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], "points_y": [1000, 1000, 9000, 9000], "sensitivity": 30, "people_enhance": "on", "vehicle_enhance": "on", "enhance_validity": "low" }, { "id": 2, "points_num": 4, "points_x": [0, 1000, 1000, 0], "points_y": [0, 0, 1000, 1000], "sensitivity": 70, "people_enhance": "on", "vehicle_enhance": "off", "enhance_validity": "high" }] } }</pre>		

response:

```
{
  "method": "setAreaEntryDetectionRegion",
  "errCode": 0
}
```

4.8.26 getAreaEntryDetectionRegion

Name	Content	
Command	getAreaEntryDetectionRegion	
Description	This API is used for getting Area Entry Detection region.	
Request	NULL	
Response	id	Int. Range [1,4], the id of AreaEntry Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
	sensitivity	Int. Range [1,100]. The sensitivity of Area Entry detection, the higher the sensitivity, the easier it is to generate Area Entry detection
	people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43

	enhance_validity String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Example	request: <pre>{ "method": "getAreaEntryDetectionRegion" }</pre>
	response: <pre>{ "method": "getAreaEntryDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [2500, 7500, 7500, 2500], "points_y": [2500, 2500, 7500, 7500], "sensitivity": 50, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" } } }</pre>

```

    }
  },
  "errCode": 0
}

```

4.8.27 setAreaLeaveDetectionSwitch

Name	Content	
Command	setAreaLeaveDetectionSwitch	
Description	This API is used for setting Area Leave Detection switch.	
Request	enabled	String. {"on", "off"}, open/close Area Leave detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Area Leave detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Area Leave detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Area Leave detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Area Leave detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre> { "method": "setAreaLeaveDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", </pre>	

	<pre> "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", } } </pre>
	<pre> response: { "method": "setAreaLeaveDetectionSwitch", "errCode": 0 } </pre>

4.8.28 getAreaLeaveDetectionSwitch

Name	Content	
Command	getAreaLeaveDetectionSwitch	
Description	This API is used for getting Area Leave Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close Area Leave detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Area Leave detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Area Leave detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Area Leave detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Area Leave detection, default is "on". But if you want to record, you need to have recordschedule turned on at the

		same time.
Example	request: <pre>{ "method": "getAreaLeaveDetectionSwitch" }</pre>	
	response: <pre>{ "method": "getAreaLeaveDetectionSwitch", "result": { "enabled": "off", "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "msg_push_enabled": "on", "record_enabled": "on" }, "errCode": 0 }</pre>	

4.8.29 setAreaLeaveDetectionRegion

Name	Content		
Command	setAreaLeaveDetectionRegion		
Description	This API is used for setting Area Leave Detection region		
Request	set_region_info	id	Int. Range [1,4], the id of Area Leave Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that make up the detection area.
		points_x	Array<int>. An array representing the x-coordinate

			of the i-th point in a set of points. x-range[0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
		sensitivity	Int. Range[1,100]. The sensitivity of Area Leave detection, the higher the sensitivity, the easier it is to generate Area Leave detection
		people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
		vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
		enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Response	NULL		

Example	request: <pre> { "method": "setAreaLeaveDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], "points_y": [1000, 1000, 9000, 9000], "sensitivity": 30, "people_enhance": "on", "vehicle_enhance": "on", "enhance_validity": "high" }, { "id": 2, "points_num": 4, "points_x": [0, 1000, 1000, 0], "points_y": [0, 0, 1000, 1000], "sensitivity": 70, "people_enhance": "on", "vehicle_enhance": "on", "enhance_validity": "medium" }] } }, }</pre> response: <pre> { "method": "setAreaLeaveDetectionRegion", "errCode": 0 }</pre>
-----------------------	--

	}
--	---

4.8.30 getAreaLeaveDetectionRegion

Name	Content	
Command	getAreaLeaveDetectionRegion	
Description	This API is used for getting Area Leave Detection region.	
Request	NULL	
Response	id	Int. Range [1,4], the id of Area Leave Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
	sensitivity	Int. Range [1,100]. The sensitivity of Area Leave detection, the higher the sensitivity, the easier it is to generate Area Leave detection
	people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43

	enhance_validity String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement.
Example	request: <pre>{ "method": "getAreaLeaveDetectionRegion" }</pre>
	response: <pre>{ "method": "getAreaLeaveDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [2500, 7500, 7500, 2500], "points_y": [2500, 2500, 7500, 7500], "sensitivity": 50, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" } } }</pre>

```

    }
  },
  "errCode": 0
}

```

4.8.31 setDropAndTakeDetectionSwitch

Name	Content	
Command	setDropAndTakeDetectionSwitch	
Description	This API is used for setting DropAndTake Detection switch.	
Request	enabled	String. {"on", "off"}, open/close DropAndTake detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for DropAndTake detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for DropAndTake detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for DropAndTake detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for DropAndTake detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	

Example	request: <pre> { "method": "setDropAndTakeDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", } } </pre>
	response: <pre> { "method": "setDropAndTakeDetectionSwitch", "errCode": 0 } </pre>

4.8.32 getDropAndTakeDetectionSwitch

Name	Content	
Command	getDropAndTakeDetectionSwitch	
Description	This API is used for getting DropAndTake Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close DropAndTake detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for DropAndTake detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for DropAndTake detection, default is "off".

	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for DropAndTake detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for DropAndTake detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Example	request: <pre>{ "method": "getDropAndTakeDetectionSwitch" }</pre>	
	response: <pre>{ "method": "getDropAndTakeDetectionSwitch", "result": { "enabled": "off", "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "msg_push_enabled": "on", "record_enabled": "on" }, "errCode": 0 }</pre>	

4.8.33 setDropAndTakeDetectionRegion

Name	Content		
Command	setDropAndTakeDetectionRegion		
Description	This API is used for setting DropAndTake Detection region		
Request	set_region_info	id	Int. Range[1,4], the id of

			DropAndTake Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
		points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
		sensitivity	Int. Range [1,100]. The sensitivity of DropAndTake detection, the higher the sensitivity, the easier it is to generate DropAndTake detection
		threshold	Int. Range [5,20]. Time threshold
		detect	String. {'take','drop','both'}. Detect event types, 'take': take away, 'drop': legacy, 'both' (default): legacy and take.
Response	NULL		
Example	request: <pre>{ "method": "setDropAndTakeDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], "points_y": [1000, 1000, 9000, 9000], "sensitivity": 30,</pre>		

	<pre> "threshold": 16, "detect": "drop" }, { "id": 2, "points_num": 4, "points_x": [0, 1000, 1000, 0], "points_y": [0, 0, 1000, 1000], "sensitivity": 70, "threshold": 6, "detect": "take" },] }, }</pre>
	<pre> response: { "method": "setDropAndTakeDetectionRegion", "errCode": 0 }</pre>

4.8.34 getDropAndTakeDetectionRegion

Name	Content	
Command	getDropAndTakeDetectionRegion	
Description	This API is used for getting DropAndTake Detection region.	
Request	NULL	
Response	id	Int. Range[1,4], the id of DropAndTake Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area.
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-

		range[0,10000]
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
	sensitivity	Int. Range [1,100]. The sensitivity of DropAndTake detection, the higher the sensitivity, the easier it is to generate DropAndTake detection.
	threshold	Int. Range [5,20]. Time threshold.
	detect	String. {'take','drop','both'}. Detect event types, 'take': take away, 'drop': legacy, 'both' (default): legacy and take.
Example	request: <pre>{ "method": "getDropAndTakeDetectionRegion" }</pre>	
	response: <pre>{ "method": "getDropAndTakeDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [2500, 7500, 7500, 2500], "points_y": [2500,</pre>	

	<pre> 2500, 7500, 7500], "sensitivity": 50, "threshold": 50, "detect": "both" } }, "errCode": 0 }</pre>
--	--

4.8.35 setLoiterDetectionSwitch

Name	Content	
Command	setLoiterDetectionSwitch	
Description	This API is used for setting Loiter Detection switch.	
Request	enabled	String. {"on", "off"}, open/close Loiter detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Loiter detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Loiter detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Loiter detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Loiter detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	

Example	request: <pre> { "method": "setLoiterDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", } }</pre>
	response: <pre> { "method": "setLoiterDetectionSwitch", "errCode": 0 }</pre>

4.8.36 getLoiterDetectionSwitch

Name	Content	
Command	getLoiterDetectionSwitch	
Description	This API is used for getting Loiter Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close Loiter detection switch, default is "off".
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Loiter detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Loiter detection, default is "off".

	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Loiter detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Loiter detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Example	request: <pre>{ "method": "getLoiterDetectionSwitch" }</pre>	
	response: <pre>{ "method": "getLoiterDetectionSwitch", "result": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off" }, "errCode": 0 }</pre>	

4.8.37 setLoiterDetectionRegion

Name	Content		
Command	setLoiterDetectionRegion		
Description	This API is used for setting Loiter Detection region.		
Request	set_region_info	id	Int. Range [1, 4], the id of Loiter

			Detection Region.
		points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
		points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
		sensitivity	Int. Range [1,100]. The sensitivity of Area Entry detection, the higher the sensitivity, the easier it is to generate Loiter detection
		threshold	Int. Range [1,10]. Time threshold
		people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
		vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported

			based on the response result of 4.8.43
		enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Response	NULL		
Example	request: <pre> { "method": "setLoiterDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], "points_y": [1000, 1000, 9000, 9000], "sensitivity": 30, "threshold": 6, "people_enhance": "on", "vehicle_enhance": "on", "enhance_validity": "low" }, { "id": 2, "points_num": 4, "points_x": [0, 1000, 1000, 0], "points_y": [0, 0, 1000, 1000], "sensitivity": 70, "threshold": 3, "people_enhance": "on", "vehicle_enhance": "off", "enhance_validity": "high" }] } } </pre>		

	<pre> },], }, } </pre>
	response: <pre> { "method": "setLoiterDetectionRegion", "errCode": 0 } </pre>

4.8.38 getLoiterDetectionRegion

Name	Content	
Command	getLoiterDetectionRegion	
Description	This API is used for getting Loiter Detection region.	
Request	NULL	
Response	id	Int. Range [1,4], the id of Loiter Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]
	sensitivity	Int. Range [1,100]. The sensitivity of Loiter detection, the higher the sensitivity, the easier it is to generate Loiter detection
	threshold	Int. Range [1,10]. Time threshold
	people_enhance	String. {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific

		object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	vehicle_enhance	String. {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. Determine whether this configuration is supported based on the response result of 4.8.43
	enhance_validity	String. {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Example	request: <pre>{ "method": "getLoiterDetectionRegion" }</pre>	
	response: <pre>{ "method": "getLoiterDetectionRegion", "result": { "region_info_1": { "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], "points_y": [1000,</pre>	

```

    1000,
    9000,
    9000
  ],
  "sensitivity": 30,
  "threshold": 6,
  "people_enhance": "on",
  "vehicle_enhance": "on",
  "enhance_validity": "low"
},
},
"errCode": 0
}

```

4.8.39 setSceneChangeDetectionSwitch

Name	Content	
Command	setSceneChangeDetectionSwitch	
Description	This API is used for setting Scene Change Detection switch	
Request	enabled	String. {"on", "off"}, open/close Scene Change detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of Scene Change detection, the higher the sensitivity, the easier it is to generate Scene Change detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Scene Change detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Scene Change detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Scene Change detection, default is "on".

	record_enabled	String. {"on", "off"}, open/close the record switch for Scene Change detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Response	NULL	
Example	request: <pre>{ "method": "setSceneChangeDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", "sensitivity": 30, } }</pre>	
	response: <pre>{ "method": "setSceneChangeDetectionSwitch", "errCode": 0 }</pre>	

4.8.40 getSceneChangeDetectionSwitch

Name	Content	
Command	getSceneChangeDetectionSwitch	
Description	This API is used for getting Scene Change Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close Scene Change detection switch, default is "off".

	sensitivity Int. Range [1,100]. The sensitivity of Scene Change detection, the higher the sensitivity, the easier it is to generate Audio Anomaly detection
	sound_alarm_enabled String. {"on", "off"}, open/close the sound alarm switch for Scene Change detection, default is "off".
	light_alarm_enabled String. {"on", "off"}, open/close the light alarm switch for Scene Change detection, default is "off".
	msg_push_enabled String. {"on", "off"}, open/close the msg push switch for Scene Change detection, default is "on".
	record_enabled String. {"on", "off"}, open/close the record switch for Scene Change detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
Example	request: <pre>{ "method": "getSceneChangeDetectionSwitch" }</pre> response: <pre>{ "method": "getSceneChangeDetectionSwitch", "result": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off",</pre>

```

    "sensitivity": 30
  },
  "errCode": 0
}

```

4.8.41 setAudioAnomalyDetectionSwitch

Name	Content	
Command	setAudioAnomalyDetectionSwitch	
Description	This API is used for setting Audio Anomaly Detection switch.	
Request	enabled	String. {"on", "off"}, open/close Audio Anomaly detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of Audio Anomaly detection, the higher the sensitivity, the easier it is to generate Audio Anomaly detection
	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Audio Anomaly detection, default is "off".
	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Audio Anomaly detection, default is "off".
	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Audio Anomaly detection, default is "on".
	record_enabled	String. {"on", "off"}, open/close the record switch for Audio Anomaly detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
	threshold	Int. Range [1,100]. Alert threshold.
Response	NULL	

Example	request: <pre> { "method": "setAudioAnomalyDetectionSwitch", "params": { "enabled": "on", "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", "sensitivity": 30, "threshold": 40 } } </pre>
	response: <pre> { "method": "setAudioAnomalyDetectionSwitch", "errCode": 0 } </pre>

4.8.42 getAudioAnomalyDetectionSwitch

Name	Content	
Command	getAudioAnomalyDetectionSwitch	
Description	This API is used for getting Audio Anomaly Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close Audio Anomaly detection switch, default is "off".
	sensitivity	Int. Range [1,100]. The sensitivity of Audio Anomaly detection, the higher the sensitivity, the easier it is to generate tamper detection
	threshold	Int. Range [1,100]. Alert threshold

	<table> <tr> <td>sound_alarm_enabled</td><td>String. {"on", "off"}, open/close the sound alarm switch for Audio Anomaly detection, default is "off".</td></tr> <tr> <td>light_alarm_enabled</td><td>String. {"on", "off"}, open/close the light alarm switch for Audio Anomaly detection, default is "off".</td></tr> <tr> <td>msg_push_enabled</td><td>String. {"on", "off"}, open/close the msg push switch for Audio Anomaly detection, default is "on".</td></tr> <tr> <td>record_enabled</td><td>String. {"on", "off"}, open/close the record switch for Audio Anomaly detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.</td></tr> </table>	sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Audio Anomaly detection, default is "off".	light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Audio Anomaly detection, default is "off".	msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Audio Anomaly detection, default is "on".	record_enabled	String. {"on", "off"}, open/close the record switch for Audio Anomaly detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.
sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for Audio Anomaly detection, default is "off".								
light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for Audio Anomaly detection, default is "off".								
msg_push_enabled	String. {"on", "off"}, open/close the msg push switch for Audio Anomaly detection, default is "on".								
record_enabled	String. {"on", "off"}, open/close the record switch for Audio Anomaly detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time.								
Example	request: <pre>{ "method": "getAudioAnomalyDetectionSwitch" }</pre> response: <pre>{ "method": "getAudioAnomalyDetectionSwitch", "result": { "enabled": "on", "sensitivity": 30, "threshold": 40, "sound_alarm_enabled": "on", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off" }, "errCode": 0 }</pre>								

	}
--	---

4.8.43 getEventEnhanceCapability

Name	Content	
method	getEventEnhanceCapability	
Description	This API is used for get the enhance capability.	
Request	NULL	
Response	people_enhance_ver	Strings. Humanoid enhancement is based on the following matching rules: 1: MotionDetection 2: CrossLineDetection 4: InvasionDetection 8: AreaEntryDetection 16: AreaLeaveDetection 32: LoiterDetection Support bitwise or, such as 3 indicates that humanoid enhancement is supported in motion detection and crossline detection
	vehicle_enhance_ver	Integer strings. Vehicle enhancement is based on the following matching rules: 1: MotionDetection 2: CrossLineDetection 4: InvasionDetection 8: AreaEntryDetection 16: AreaLeaveDetection 32: LoiterDetection Support bitwise or, such as 3 indicates that vehicle enhancement is supported in motion detection and crossline detection

Example	request: <pre>{ "method": "getEventEnhanceCapability" }</pre>
	response: <pre>{ "method": "getEventEnhanceCapability", "result": { "people_enhance_ver": "63", "vehicle_enhance_ver": "63", }, "errCode": 0 }</pre>

4.8.44 getMotionDeteccionSchedule

Name	Content	
method	getMotionDeteccionSchedule	
Description	This API is used for getting the motion detection shedule.	
Request	NULL	
Response	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain

		type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method": "getMotionDetecionSchedule" }</pre>	
	response: <pre>{ "method": "getMotionDetecionSchedule", "result": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>	

4.8.45 setMotionDetecionSchedule

Name	Content	
Command	setMotionDetecionSchedule	
Description	This API is used for setting the motion detection shedule.	
Request	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":".

		Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setMotionDetecionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre> response: <pre>{ "method": "setMotionDetecionSchedule", "errCode": 0 }</pre>	

4.8.46 getLineCrossingDetecionSchedule

Name	Content
method	getLineCrossingDetecionSchedule
Description	This API is used for getting the linecrossing detection shedule.

Request	NULL	
Response	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method": "getLineCrossingDetecionSchedule" }</pre>	
	response: <pre>{ "method": "getLineCrossingDetecionSchedule", "result": { "monday": "[\"0000-2400\"]"; "tuesday": "[\"0000-2400\"]"; "wednesday": "[\"0000-2400\"]"; "thursday": "[\"0000-2400\"]"; "friday": "[\"0000-2400\"]"; "saturday": "[\"0000-2400\"]"; "sunday": "[\"0000-2400\"]" }, }</pre>	

	<pre> "errCode": 0 } </pre>
--	---

4.8.47 setLineCrossingDetecionSchedule

Name	Content
Command	setLineCrossingDetecionSchedule
Description	This API is used for setting the linecrossing detection shedule.
Request	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday
Response	NULL
Example	request: <pre> { "method": "setLineCrossingDetecionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", </pre>

	<pre> "saturday": "[\\"0000-2400\\"]"; "sunday": "[\\"0000-2400\\"]" } } </pre>
	<pre> response: { "method": "setLineCrossingDetecionSchedule", "errCode": 0 } </pre>

4.8.48 getIntrusionDetecionSchedule

Name	Content
method	getIntrusionDetecionSchedule
Description	This API is used for getting the intrusion detection shedule.
Request	NULL
Response	Array< string >. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday

Example	request: <pre>{ "method": "getIntrusionDetecionSchedule" }</pre>
	response: <pre>{ "method": "getIntrusionDetecionSchedule", "result": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>

4.8.49 setIntrusionDetecionSchedule

Name	Content	
Command	setIntrusionDetecionSchedule	
Description	This API is used for setting the intrusion detection shedule.	
Request	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time

		periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setIntrusionDetecionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>	
	response: <pre>{ "method": "setIntrusionDetecionSchedule", "errCode": 0 }</pre>	

4.8.50 getRegionEntranceDetection

Name	Content	
method	getRegionEntranceDetection	
Description	This API is used for getting the region entrance detection shedule.	
Request	NULL	
Response	Monday	Array< string >. 1. Use each time period: ["AABB-CCDD:type",
	Tuesday	

	Wednesday Thursday Friday Saturday sunday	"AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method": "getRegionEntranceDetection" }</pre>	
	response: <pre>{ "method": "getRegionEntranceDetection", "result": { "monday": "[\"0000-2400\"]"; "tuesday": "[\"0000-2400\"]"; "wednesday": "[\"0000-2400\"]"; "thursday": "[\"0000-2400\"]"; "friday": "[\"0000-2400\"]"; "saturday": "[\"0000-2400\"]"; "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>	

4.8.51 setRegionEntranceDetection

Name	Content	
Command	setRegionEntranceDetection	
Description	This API is used for setting the region entrance shedule.	
Request	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setRegionEntranceDetection", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>	

	}
	response: { "method": "setRegionEntranceDetection", "errCode": 0 }

4.8.52 getRegionExitDetecionSchedule

Name	Content
method	getRegionExitDetecionSchedule
Description	This API is used for getting the region exiting detection shedule.
Request	NULL
Response	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday
Example	request: { "method": "getRegionExitDetecionSchedule" }

response:

```
{
  "method": "getRegionExitDetecionSchedule",
  "result": {
    "monday": "[\"0000-2400\"]",
    "tuesday": "[\"0000-2400\"]",
    "wednesday": "[\"0000-2400\"]",
    "thursday": "[\"0000-2400\"]",
    "friday": "[\"0000-2400\"]",
    "saturday": "[\"0000-2400\"]",
    "sunday": "[\"0000-2400\"]"
  },
  "errCode": 0
}
```

4.8.53 setRegionExitDetecionSchedule

Name	Content
Command	setRegionExitDetecionSchedule
Description	This API is used for setting the region exiting shedule.
Request	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in Monday Tuesday Wednesday Thursday Friday Saturday sunday

		the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setRegionExitDetecionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>	
	response: <pre>{ "method": "setRegionExitDetecionSchedule", "errCode": 0 }</pre>	

4.8.54 getPeopleDetectionSchedule

Name	Content	
method	getPeopleDetectionSchedule	
Description	This API is used for getting the people detection shedule.	
Request	NULL	
Response	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type"; "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is

		represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request:	<pre>{ "method": "getPeopleDetectionSchedule" }</pre>
	response:	<pre>{ "method": "getPeopleDetectionSchedule", "result": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>

4.8.55 setPeopleDetectionSchedule

Name	Content
Command	setPeopleDetectionSchedule
Description	This API is used for setting the people detection shedule.

Request	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setPeopleDetectionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>	

response:

```
{
    "method": "setPeopleDetectionSchedule",
    "errCode": 0
}
```

4.8.56 getVehicleDetectionSchedule

Name	Content
method	getVehicleDetectionSchedule
Description	This API is used for getting the vehicle detection shedule.
Request	NULL
Response	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday
Example	request: <pre>{ "method": "getVehicleDetectionSchedule" }</pre>
	response: <pre>{</pre>

```

"method": "getVehicleDetectionSchedule",
"result": {
    "monday": "[\"0000-2400\"]";
    "tuesday": "[\"0000-2400\"]";
    "wednesday": "[\"0000-2400\"]";
    "thursday": "[\"0000-2400\"]";
    "friday": "[\"0000-2400\"]";
    "saturday": "[\"0000-2400\"]";
    "sunday": "[\"0000-2400\"]";
},
"errCode": 0
}

```

4.8.57 setVehicleDetectionSchedule

Name	Content
Command	setVehicleDetectionSchedule
Description	This API is used for setting the vehicle detection shedule.
Request	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday
Response	NULL

Example	request: <pre>{ "method": "setVehicleDetectionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>
	response: <pre>{ "method": "setVehicleDetectionSchedule", "errCode": 0 }</pre>

4.8.58 getAbandTakenDetectionSchedule

Name	Content	
method	getAbandTakenDetectionSchedule	
Description	This API is used for getting the abandonedtaken detection shedule.	
Request	NULL	
Response	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering.

		2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method": "getAbandTakenDetectionSchedule" }</pre>	
	response: <pre>{ "method": "getAbandTakenDetectionSchedule", "result": { "monday": "[\"0000-2400\"]"; "tuesday": "[\"0000-2400\"]"; "wednesday": "[\"0000-2400\"]"; "thursday": "[\"0000-2400\"]"; "friday": "[\"0000-2400\"]"; "saturday": "[\"0000-2400\"]"; "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>	

4.8.59 setAbandTakenDetectionSchedule

Name	Content	
Command	setAbandTakenDetectionSchedule	
Description	This API is used for setting the abandonedtaken detection shedule.	
Request	Monday Tuesday Wednesday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...]

	Thursday Friday Saturday sunday	Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setAbandTakenDetectionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre> response: <pre>{ "method": "setAbandTakenDetectionSchedule", "errCode": 0 }</pre>	

4.8.60 getLoiteringdetectionSchedule

Name	Content	
method	getLoiteringdetectionSchedule	
Description	This API is used for getting the loitering detection shedule.	
Request	NULL	
Response	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method": "getLoiteringdetectionSchedule" }</pre>	
	response: <pre>{ "method": "getLoiteringdetectionSchedule", "result": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]",</pre>	

	<pre> "friday": "[\"0000-2400\"]"; "saturday": "[\"0000-2400\"]"; "sunday": "[\"0000-2400\"]" }, "errCode": 0 } </pre>
--	---

4.8.61 setLoiteringdetectionSchedule

Name	Content
Command	setLoiteringdetectionSchedule
Description	This API is used for setting the loitering detection shedule.
Request	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday
Response	NULL
Example	request: <pre> { "method": "setLoiteringdetectionSchedule", "params": { "monday": "[\"0000-2400\"]"; "tuesday": "[\"0000-2400\"]"; </pre>

	<pre> "wednesday": "[\"0000-2400\"]"; "thursday": "[\"0000-2400\"]"; "friday": "[\"0000-2400\"]"; "saturday": "[\"0000-2400\"]"; "sunday": "[\"0000-2400\"]" } } </pre>
	<pre> response: { "method": "setLoiteringdetectionSchedule", "errCode": 0 } </pre>

4.8.62 getScenechangeDetectionSchedule

Name	Content
method	getScenechangeDetectionSchedule
Description	This API is used for getting the scene change detection shedule.
Request	NULL
Response	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday

Example	request: <pre>{ "method": "getScenechangeDetectionSchedule" }</pre>
	response: <pre>{ "method": "getScenechangeDetectionSchedule", "result": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>

4.8.63 setScenechangeDetectionSchedule

Name	Content	
Command	setScenechangeDetectionSchedule	
Description	This API is used for setting the scene change detection shedule.	
Request	Monday Tuesday Wednesday Thursday Friday Saturday sunday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time

		periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL	
Example	request: <pre>{ "method": "setScenechangeDetectionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>	
	response: <pre>{ "method": "setScenechangeDetectionSchedule", "errCode": 0 }</pre>	

4.8.64 getAdExeptionDetectionSchedule

Name	Content	
method	getAdExeptionDetectionSchedule	
Description	This API is used for getting the audio detection shedule.	
Request	NULL	
Response	Monday Tuesday	Array< string >. 1. Use each time period: ["AABB-CCDD:type",

	Wednesday Thursday Friday Saturday sunday	"AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method": "getAdExeptionDetectionSchedule" }</pre>	
	response: <pre>{ "method": "getAdExeptionDetectionSchedule", "result": { "monday": "[\"0000-2400\"]"; "tuesday": "[\"0000-2400\"]"; "wednesday": "[\"0000-2400\"]"; "thursday": "[\"0000-2400\"]"; "friday": "[\"0000-2400\"]"; "saturday": "[\"0000-2400\"]"; "sunday": "[\"0000-2400\"]" }, "errCode": 0 }</pre>	

4.8.65 setAdExecptionDetectionSchedule

Name	Content
Command	setAdExecptionDetectionSchedule
Description	This API is used for setting the audio execption detection shedule.
Request	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection) Monday Tuesday Wednesday Thursday Friday Saturday sunday
Response	NULL
Example	request: <pre>{ "method": "setAdExecptionDetectionSchedule", "params": { "monday": "[\"0000-2400\"]", "tuesday": "[\"0000-2400\"]", "wednesday": "[\"0000-2400\"]", "thursday": "[\"0000-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0000-2400\"]", "sunday": "[\"0000-2400\"]" } }</pre>

	}
	response: { "method": "setAdExecptionDetectionSchedule", "errCode": 0 }

4.8.66 setQueueDetectionSwitch

Name	Content	
Command	setQueueDetectionSwitch	
Description	This API is used for setting Queue Detection switch.	
Request	enabled	String. {"on", "off"}, open/close Loiter detection switch, default is "off".
Response	NULL	
Example	request: { "method": "setQueueDetectionSwitch", "params": { "enabled": "on", } }	
	response: { "method": "setQueueDetectionSwitch", "errCode": 0 }	

4.8.67 getQueueDetectionSwitch

Name	Content	
method	getQueueDetectionSwitch	
Description	This API is used for getting Queue Detection switch.	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close Loiter

		detection switch, default is "off".
Example	request: <pre>{ "method": "getQueueDetectionSwitch" }</pre>	
	response: <pre>{ "method": "getQueueDetectionSwitch", "result": { "enabled": "on", }, "errCode": 0 }</pre>	

4.8.68 setQueueDetectionRegion

Name	Content	
Command	setQueueDetectionRegion	
Description	This API is used for setting Queue Detection region.	
Request	set_region_info	Array< JSON array >. Each item contains the following fields.
	id	Int. Range [1, 4], the id of Loiter Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area.
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000].
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000].
	sensitivity	Int. Range [1,100]. The sensitivity of Loiter detection, the higher the sensitivity, the

	easier it is to generate Loiter detection.
people_alarm_enabled	String. The status of the alarm triggered by the number threshold. Value range: on: enabled, off: disabled.
people_threshold	Int. Number of people alarm quantity threshold. Value range: 0-30.
people_cmp_type	String. Queue alarm comparison type. Value range: "equal","not equal","more","less".
time_alarm_enabled	String. The switch status alarm triggered by the time threshold. Value range: on: enabled, off: disabled.
time_threshold	Int. Time alarm quantity threshold. Value range: 1-1800.
osd_enabled	String. OSD switch status. Value range: on: enabled, off: disabled.
zero_filter_enabled	String. Unmanned scene filtering switch status. Value range: on: enabled, off: disabled.
record_enabled	String. Trigger the video recording status. Value range: on: enabled, off: disabled
msg_push_enabled	String. The status of message push notifications. Value range: on: enabled, off: disabled.
sound_alarm_enabled	String. {"on", "off"}, open/close the sound alarm switch for motion detection, default is "off".
light_alarm_enabled	String. {"on", "off"}, open/close the light alarm switch for motion detection, default is "off".
Monday Tuesday Wednesday Thursday Friday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is

	Saturday sunday CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Response	NULL
Example	request: <pre>{ "method": "setQueueDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [0, 7427, 7427, 2335], "points_y": [0, 2193, 7354, 7354] }] } }</pre>

	<pre> "sensitivity": 50, "people_alarm_enabled": "on", "people_threshold": 10, "people_cmp_type": "equal", "time_alarm_enabled": "on", "time_threshold": 30, "osd_enabled": "on", "zero_filter_enabled": "off", "record_enabled": "on", "msg_push_enabled": "on", "sound_alarm_enabled": "off", "light_alarm_enabled": "off", "monday": "[\"0033-2400\"]", "tuesday": "[\"0044-2400\"]", "wednesday": "[\"0055-2400\"]", "thursday": "[\"0066-2400\"]", "friday": "[\"0000-2400\"]", "saturday": "[\"0030-2400\"]", "sunday": "[\"0033-2400\"]" }] } } </pre>
	response: <pre> { "method": "setQueueDetectionRegion", "errCode": 0 } </pre>

4.8.69 getQueueDetectionRegion

Name	Content
Command	getQueueDetectionRegion
Description	This API is used for getting Queue Detection region.

Response	NULL	
Response	set_region_info	Array<JSON array>. Each item contains the following fields.
	id	Int. Range [1, 4], the id of Loiter Detection Region.
	points_num	Int. The value can only be 4. The number of point set elements that make up the detection area.
	points_x	Array<int>. An array representing the x-coordinate of the i-th point in a set of points. x-range [0,10000].
	points_y	Array<int>. An array representing the y-coordinate of the i-th point in a set of points. y-range [0,10000].
	sensitivity	Int. Range [1,100]. The sensitivity of Loiter detection, the higher the sensitivity, the easier it is to generate Loiter detection.
	people_alarm_enabled	String. The status of the alarm triggered by the number threshold. Value range: on: enabled, off: disabled.
	people_threshold	Int. Number of people alarm quantity threshold. Value range: 0-30.
	people_cmp_type	String. Queue alarm comparison type. Value range: "equal","not equal","more","less".
	time_alarm_enabled	String. The switch status alarm triggered by the time threshold. Value range: on: enabled, off: disabled.
	time_threshold	Int. Time alarm quantity threshold. Value range: 1-1800.
	osd_enabled	String. OSD switch status. Value range: on: enabled, off: disabled.
	zero_filter_enabled	String. Unmanned scene filtering switch status. Value range: on: enabled, off: disabled.

	record_enabled String. Trigger the video recording status. Value range: on: enabled, off: disabled
	msg_push_enabled String. The status of message push notifications. Value range: on: enabled, off: disabled.
	sound_alarm_enabled String. {"on", "off"}, open/close the sound alarm switch for motion detection, default is "off".
	light_alarm_enabled String. {"on", "off"}, open/close the light alarm switch for motion detection, default is "off".
	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
Example	request: <pre>{ "method":"getQueueDetectionRegion" }</pre>

response:

```
{
  "method": "getQueueDetectionRegion",
  "result": {
    "region_info_1": {
      "id": 1,
      "points_num": 4,
      "points_x": [
        0,
        7427,
        7427,
        2335
      ],
      "points_y": [
        0,
        2193,
        7354,
        7354
      ],
      "sensitivity": 0,
      "people_alarm_enabled": "on",
      "people_threshold": 10,
      "people_cmp_type": "equal",
      "time_alarm_enabled": "on",
      "time_threshold": 30,
      "osd_enabled": "on",
      "zero_filter_enabled": "off",
      "record_enabled": "on",
      "msg_push_enabled": "on",
      "sound_alarm_enabled": "off",
      "light_alarm_enabled": "off",
      "monday": "[\"0033-2400\"]",
    }
  }
}
```

```

    "tuesday": "[\"0044-2400\"]";
    "wednesday": "[\"0055-2400\"]";
    "thursday": "[\"0066-2400\"]";
    "friday": "[\"0000-2400\"]";
    "saturday": "[\"0030-2400\"]";
    "sunday": "[\"0033-2400\"]"
  },
  "errCode": 0
}

```

4.9 PTZ

4.9.1 getPresetPoint

Name	Content	
Command	getPresetPoint	
Description	This API is used for getting preset point.	
Request	NULL	
Response	id	Array<string>. Presets a point-unique identifier.
	name	Array<string>. The name of the preset point.
	position_pan	Array<string>. Preset point horizontal position information.
	position_tilt	Array<string>. Preset point vertical position information.
	position_zoom	Array<string>. Preset point zoom position information(Only available when ptz_zoom is supported)
Example	request: <pre> { "method": "getPresetPoint" } </pre>	

```

response:
{
  "method": "getPresetPoint",
  "result": {
    "id": [
      "3"
    ],
    "name": [
      "vigi-test"
    ],
    "position_pan": [
      "0.200000"
    ],
    "position_tilt": [
      "0.600000"
    ],
    "position_zoom": [
      "0.200000"
    ]
  },
  "errCode": 0
}

```

4.9.2 motorMove

Name	Content	
Command	motorMove	
Description	This API is used for absolute movement.	
Request	x_coord	String. Range in [-1,1]
	y_coord	String. Range in [-1,1]
	z_coord	String. Range in [0,1] (Only essential when ptz_zoom is supported)
Response	NULL	

Example	request: <pre>{ "method": "motorMove", "params": { "x_coord": "0.2", "y_coord": "0.2", "z_coord": "0.2", } }</pre>
	response: <pre>{ "method": "motorMove", "errCode": 0 }</pre>

4.9.3 cruiseMove

Name	Content	
Command	cruiseMove	
Description	This API is used for continuous movement.	
Request	coord	String, 'x', 'y', '-x' or '-y'; String, 'x', 'y', '-x', '-y', 'z' or '-z' when ptz_zoom is supported
	coord_speed (option)	String. The speed at which the coord direction is moving. The maximum speed is 1.000000
Response	NULL	
Example	request: <pre>{ "method": "cruiseMove", "params": {</pre>	

	<pre> "coord": "y", } } </pre>
	<pre> response: { "method": "cruiseMove", "errCode": 0 } </pre>

4.9.4 stopMove

Name	Content
Command	stopMove
Description	This API is used for stop moving.
Request	NULL
Response	NULL
Example	request: <pre> { "method": "stopMove" } </pre>
	response: <pre> { "method": "stopMove", "errCode": 0 } </pre>

4.9.5 setPresetPoint

Name	Content
Command	setPresetPoint

Description	This API is used for setting preset point. Save the current PTZ information as the preset point PTZ information.	
Request	id	String. Presets a point-unique identifier, incrementing from 1 to a maximum of 8
	name	String. The name of the preset point
Response	id	String. Presets a point-unique identifier, incrementing from 1 to a maximum of 8
	name	String. The name of the preset point
Example	request: <pre>{ "method": "setPresetPoint", "params": { "id": "3", "name": "vigi-test" } }</pre>	
	response: <pre>{ "method": "setPresetPoint", "result": { "name": "vigi-test", "id": 3, }, "errCode": 0 }</pre>	

4.9.6 removePresetPoint

Name	Content	
Command	removePresetPoint	
Description	This API is used for removing preset point	
Request	id	Array<string>. Presets a point-unique identifier,

		incrementing from 1 to a maximum of 8
Response	NULL	
Example	request: <pre>{ "method": "removePresetPoint", "params": { "id": ["3"], } }</pre>	
	response: <pre>{ "method": "removePresetPoint", "errCode": 0 }</pre>	

4.9.7 gotoPresetPoint

Name	Content	
Command	gotoPresetPoint	
Description	This API is used for jumping to preset point.	
Request	id	String. Presets a point-unique identifier, incrementing from 1 to a maximum of 8
Response	NULL	
Example	request: <pre>{ "method": "gotoPresetPoint", "params": { "id": "3", } }</pre>	

	<pre> }</pre>
	<pre> response: { "method": "gotoPresetPoint", "errCode": 0 }</pre>

4.9.8 getPTZCapability

Name	Content	
method	getPTZCapability	
Description	This API is used for get the PTZ capability.	
Request	NULL	
Response	speed_x_max	String. Maximum speed in the x-direction.
	speed_y_max	String. Maximum speed in the y-direction.
	speed_z_max	String. Maximum speed in the z-direction, when ptz_zoom is supported.
Example	<pre> request: { "method": "getPTZCapability" }</pre>	

```

response:
{
  "method": "getPTZCapability",
  "result": {
    "speed_x_max": "1.000000",
    "speed_y_max": "1.000000",
    "speed_z_max": "1.000000",
  },
  "errCode": 0
}

```

4.10 Playback

4.10.1 searchVideoCalendar

Name	Content	
Command	searchVideoCalendar	
Description	get date that had recorded video data	
Request	start_date	String. Start time of search date, the parameter format is <i>yyyymm</i> .
	end_date	String. End time of search date, the parameter format is <i>yyyymm</i> .
Response	dates	Array<string>. All recording dates within the given date, count by day , named by <i>yyyymmdd</i>
Example	<pre> request: { "method": "searchVideoCalendar", "params": { "start_date": "202103", "end_date": "202104" } } </pre>	

```

response:
{
  "method": "searchVideoCalendar",
  "errCode": 0,
  "result": {
    "dates": [
      "20210303",
      "20210304",
      "20210305",
      "20210306",
      "20210307"
    ]
  }
}

```

4.10.2 searchVideoList

Name	Content	
Command	searchVideoList	
Description	Get all the video information in a specific UTC time interval. This is not a pagination interface. For example, search the video event list in 20210301, and the client obtains the first 20 events through start_index = 0, end_index = 19, and then the client obtains the next 20 events until all the events of the channel are obtained. When the number of entries returned by the device side is less than 20, the client thinks that there are no more events on the device side and stops the search.	
Request	date	String. Query the recording information for the date, the parameter format is <i>yyyymmdd</i> .
	start_index	Int. The start index (including) of the query result.
	end_index	Int. The end index (including) of the query result.
	user_id (optional)	Int. User id, return by getUserID command
Response	startTime	Int. Video start time, seconds since zero hour on January 1, 1970
	endTime	Int. Video end time, seconds since zero hour on January

	<table> <tr> <td data-bbox="375 183 571 246"></td><td data-bbox="571 183 1418 246">1, 1970</td></tr> <tr> <td data-bbox="375 246 571 958">video_type</td><td data-bbox="571 246 1418 958"> string, video type: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection </td></tr> </table>		1, 1970	video_type	string, video type: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection
	1, 1970				
video_type	string, video type: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection				
Example	request: <pre>{ "method": "searchVideoList", "params": { "date": "20220912", "start_index": 0, "end_index": 99 } }</pre>				
	response: <pre>{ "method": "searchVideoList", "result": { "search_video_results": [{ "search_video_results_1": { "startTime": 1662975800, "endTime": 1662975818, "video_type": "Timing" } }, { </pre>				

```

    "search_video_results_2": {
      "startTime": 1662976759,
      "endTime": 1662983232,
      "video_type": "Timing"
    }
  },
  {
    "search_video_results_3": {
      "startTime": 1662983232,
      "endTime": 1662990625,
      "video_type": "Timing"
    }
  },
  {
    "search_video_results_4": {
      "startTime": 1662990625,
      "endTime": 1662996442,
      "video_type": "Timing"
    }
  }
]
},
"errCode": 0
}

```

4.10.3 getUserId

Name	Content	
method	getUserId	
Description	This API is used for get a user ID.	
Request	NULL	
Response	user_id	Int. The user id to used to distinguish and limit the number of users watching a replay video at the same time.

Example	request: <pre>{ "method": "getUserId" }</pre>
	response: <pre>{ "method": "getUserId", "result": { "user_id": 2 }, "errCode": 0 }</pre>

4.11 Download

4.11.1 getMediaList

Name	Content	
Command	getMediaList	
Description	This API is used for getting media list	
Request	start_time	String. The start time of the query, the number of seconds since 1970.1.1.
	end_time	String. The start time of the query, the number of seconds since 1970.1.1.
	event_type	Array<string>. Event type, represented as an array ["MotionDetection"," DropAndTakeDetection ", ...] type value: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection

		AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection
	media_type	Array<string>. Media file type, represented as an array. ["video"] (Currently, the download interface only supports media_type with a value of "video")
	start_index	Int. Query the start number of the video, starting from 0, as follows: 1. This field is optional. If no field is left, all fields are obtained. 2. The value is the same as that of max_num. 3. Containing. the index>=start_index of the returned result is not index>start_index. start_index and max_num either exist at the same time or they do not
	max_num	Int. Return the maximum entry of the result. start_index and max_num either exist at the same time or they do not
	user_id (optional)	Int. user id, return by getUserID command
	error_code	Int. Error code
Response	start_time	Array<string>. Start time, the number of seconds since 1970.1.1. The default value is "".
	end_time	Array<string>. End time, the number of seconds since 1970.1.1. The default value is "".
	size	Array<int>. The size of the file, in bytes, is 0 by default
	file_id	Array<string>. File name, a uniquely identified file. The default value is ""
	event_type	Array<string>. Event type, represented as an array ["MotionDetection"," DropAndTakeDetection", ...] type value:

	Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection
media_type	Array<string>. Media file type, represented as an array. ["video"] (Currently, the download interface only supports media_type with a value of "video")
Index (optional)	Array<int>. Index number, starting with start_index in the request. The default value is 0
rest_num (optional)	String. The device caches a certain number of media information in a single search. This field is used to represent the difference between the total number of media cached in a single search and the number of media actually obtained. This field is optional and returned when supported by the device.
total_num	String. Indicates the total number of media that match the search criteria in the search time range. This field is optional. It is returned when the device supports it
Example	request: <pre>{ "method": "getMediaList", "params": { "start_time": "1688350527", "end_time": "1688351757", "event_type": "MotionDetection", "media_type": ["video"], "start_index": 0, "max_num": 20 } }</pre>

	<pre> } } </pre>
	response: <pre> { "media": { "total_num": "2", "start_time": ["1688350527", "1688351737"], "end_time": ["1688350546", "1688351757"], "size": [3467800, 963784], "file_id": ["000100000000001", "000100000000002"], "event_type": ["MotionDetection", "DropAndTakeDetection"], "media_type": ["video", "video"], }, </pre>

```

    },
    "error_code": 0
  }

```

4.12 StreamPort

4.12.1 getStreamPort

Name	Content
method	getStreamPort
Description	This API is used for getting the stream port.
Request	NULL
Response	streamPort The port used for the stream protocol
Example	request: <pre> { "method": "getStreamPort" } </pre>
	response: <pre> { "method": "getStreamPort", "errCode": 0, "result": { "streamPort": "554", } } </pre>

4.13 MsgPush

4.13.1 subscribeMsg

Name	Content
method	subscribeMsg
Description	This API is used for subscribing to event detection information. The

	premise of device push messages is that the corresponding "msg_push_enabled" in event detection is turned on. After sending the interface request, you need to maintain the connection, the device will periodically send heartbeat packets to the client, and when the event is triggered, the device will send a message to the client. (Note that if you want to get certain types of event detection messages, you need to enable "msg_push_enabled" in the corresponding event)	
Request	event_type	Array<string>. The event type to which you subscribed. Value range: "all", "MotionDetection", "TamperDetection", "CrossLineDetection", "InvasionDetection", "AreaEntryDetection", "AreaLeaveDetection", "PeopleDetection", "VehicleDetection", "DropAndTakeDetection", "LoiterDetection", "SceneChangeDetection", "AudioAnomalyDetection"
	heartbeat	Int. Range[1,60]. The interval at which the heartbeat packet is sent
Response	(Please see example-response. Other, when the event_type value in the event message looks like "xxx", it stands for xxx event detection. When the event_type value in the event message looks like "xxx_yyy_enhance", it stands for xxx event detection, and xxx event detection enables enhancements of the yyy type.)	

Example	request: <pre>{ "method": "subscribeMsg", "params": { "event_type":["MotionDetection","InvasionDetection"], "heartbeat":15 } }</pre> response: (After sending a subscription request, the device first returns a successful/failed result and boundary format.) ***** HTTP/1.1 200 OK Cache-Control: no-cache Content-Type: multipart/mixed;boundary=--boundary-- ----boundary-- Content-Type: application/json Content-Length: 32 {"result":"success","errCode":0} ***** Or ***** HTTP/1.1 200 OK Cache-Control: no-cache Content-Type: application/json Content-Length: 31 {"result":"failed","errCode":0} ***** (After the subscription is successful, the device sends event notifications in the same connection and sends heartbeat packets on a regular basis. The format is as follows) *****
-----------------------	--

```

----boundary--
Content-Type: application/json
Content-Length: 18

{"Heartbeat":"30"}
----boundary--
Content-Type: application/json
Content-Length: 50

{"event_type":"TamperDetection","time":1723175020}
----boundary--
Content-Type: application/json
Content-Length: 18

{"Heartbeat":"30"}

.....
  
```

4.13.2 setMsgpushInterval

Name	Content	
Command	setMsgpushInterval	
Description	This API is used for setting the time interval for pushing various event messages. Event messages within the interval are ignored. The time of different clients is calculated independently.	
Request	event_interval	Int. The default is 0. The interval at which event messages of the same type are pushed to clients.
Response	NULL	
Example	request: <pre> { "method": "setMsgpushInterval", "params": { "event_interval":60 } } </pre>	

	response: <pre>{ "method": "setMsgpushInterval", "errCode": 0 }</pre>
--	---

4.13.3 getMsgpushInterval

Name	Content	
Command	getMsgpushInterval	
Description	This API is used for getting the time interval for pushing various event messages. Event messages within the interval are ignored. The time of different clients is calculated independently.	
Request	NULL	
Response	event_interval	Int. The default is 0. The interval at which event messages of the same type are pushed to clients
Example	request: <pre>{ "method": "getMsgpushInterval", }</pre>	
	response: <pre>{ "method": "getMsgpushInterval", "result": { "event_interval": 60 }, "errCode": 0 }</pre>	

4.14 recordSchedule

4.14.1 setRecordSchedule

Name	Content
------	---------

method	setRecordSchedule	
Description	This API is used for setting Record Schedule	
Request	enabled	String. {"on", "off"}, open/close record
	monday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
	tuesday	
	wednesday	
	thursday	
	friday	
	saturday	
	sunday	
Response	NULL	
Example	request: { "method": "setRecordSchedule", "params": { "enabled": "on", "monday": ["0000-2400:2"], "tuesday": ["0000-2400:2"], "wednesday": ["0000-2400:2"], "thursday": ["0000-2400:2"], "friday": ["0000-2400:2"], "saturday": ["0000-2400:2"], "sunday": ["0000-2400:2"] } }	

```

response:
{
    "method": "setRecordSchedule",
    "errCode": 0
}
  
```

4.14.2 getRecordSchedule

Name	Content	
method	getRecordSchedule	
Description	This API is used for getting Record Schedule	
Request	NULL	
Response	enabled	String. {"on", "off"}, open/close record
	monday	Array<string>. 1. Use each time period: ["AABB-CCDD:type", "AABB-CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24 (Note that if you want to record a certain type of event when the type is 2, "record_enabled" needs to be enabled in the corresponding event detection)
	tuesday	
	wednesday	
	thursday	
	friday	
	saturday	
	sunday	
Example	request: <pre>{ "method": "getRecordSchedule", }</pre>	

response:

```
{
  "method": "getRecordSchedule",
  "result": {
    "enabled": "off",
    "monday": [
      "0000-2400:2"
    ],
    "tuesday": [
      "0000-2400:2"
    ],
    "wednesday": [
      "0000-2400:2"
    ],
    "thursday": [
      "0000-2400:2"
    ],
    "friday": [
      "0000-2400:2"
    ],
    "saturday": [
      "0000-2400:2"
    ],
    "sunday": [
      "0000-2400:2"
    ]
  },
  "errCode": 0
}
```

4.15 Alarm

4.15.1 manualAlarm

Name	Content	
method	manualAlarm	
Description	This API is used to manually start or end alarms.	
Request	act	String. {start, stop}. Indicates the action performed.
Response	duration	Int. Indicates the duration of the countdown on the device, in seconds. When "act" is "stop", the response does not carry this field
Example	request: <pre>{ "method": "manualAlarm", "params": { "act": "start", } }</pre>	
	response: <pre>{ "method": "manualAlarm", "result": { "duration": 10 }, "errCode": 0 }</pre>	

4.15.2 getArmingStatus

Name	Content	
method	getArmingStatus	
Description	This API is used to get arming status.	
Request	NULL	
Response	status	String. Armed or disarmed.

Example	request: <pre>{ "method": "getArmingStatus", }</pre>
	response: <pre>{ "method": "getArmingStatus", "result": { "status": "armed" }, "errCode": 0 }</pre>

4.15.3 changeArmingStatus

Name	Content	
Command	changeArmingStatus	
Description	This API is used to set arming status.	
Request	action	String. Arm or disarm.
Response	NULL	
Example	request: <pre>{ "method": "changeArmingStatus", "params": { "action": "disarm" } }</pre>	
	response: <pre>{ "method": "changeArmingStatus", "errCode": 0 }</pre>	

4.16 Camera

4.16.1 getImageSwitch

Name	Content	
method	getImageSwitch	
Description	This API is used for getting the image switch settings.	
Request	NULL	
Response	rotate_type	String. Range [off, clockwise_90, anticlockwise_90, anticlockwise_180]. Rotate type of the camera.
	flip_type	String. Range [left_and_right, up_and_down, center, off]. Flip type of the camera.
	night_vision_mode	String. Range [inf_night_vision, md_night_vision, wtl_night_vision]. Night vision mode of the camera.
	flicker	String. Range [50hz, 60hz]. Frequency of the power line.
Example	request: <pre>{ "method": "getImageSwitch", }</pre>	
	response: <pre>{ "method": "getImageSwitch", "result": { "rotate_type": "off", "flip_type": "off", "night_vision_mode": "md_night_vision", "flicker": "50hz" }, "errCode": 0 }</pre>	

4.16.2 setImageSwitch

Name	Content
------	---------

method	setImageSwitch	
Description	This API is used for setting the image switch settings.	
Request	rotate_type	String. Range [off, clockwise_90, anticlockwise_90, anticlockwise_180]. Rotate type of the camera.
	flip_type	String. Range [left_and_right, up_and_down, center, off]. Flip type of the camera.
	night_vision_mode	String. Range [inf_night_vision, md_night_vision, wtl_night_vision]. Night vision mode of the camera.
	flicker	String. Range [50hz, 60hz]. Frequency of the power line.
Response	NULL	
Example	request: <pre>{ "method": "setImageSwitch", "params": { "rotate_type": "off", "flip_type": "off", "night_vision_mode": "md_night_vision", "flicker": "50hz" } }</pre>	
	response: <pre>{ "method": "setImageSwitch", "errCode": 0 }</pre>	

4.16.3 getImageCommon

Name	Content
method	getImageCommon
Description	This API is used for getting the image common setting.

Request	NULL	
Response	luma	Int. Range [0,100]. Luminance of the camera image.
	contrast	Int. Range [0,100]. Contrast of the camera image.
	saturation	Int. Range [0,100]. Saturation of the camera image.
	sharpness	Int. Range [0,100]. Sharpness of the camera image.
	hlc	String. Range [on,off]. High light compensation of the camera image.
	wdr	String. Range [on,off,auto]. Wide dynamic of the camera image.
Example	request: <pre>{ "method": "getImageCommon", }</pre>	
	response: <pre>{ "method": "getImageCommon", "result": { "luma": 100, "contrast": 50, "saturation": 50, "sharpness": 50, "hlc": "off", "wdr": "off" }, "errCode": 0 }</pre>	

4.16.4 setImageCommon

Name	Content
------	---------

method	setImageCommon	
Description	This API is used for setting the image common setting.	
Request	luma	Int. Range [0,100]. Luminance of the camera image.
	contrast	Int. Range [0,100]. Contrast of the camera image.
	saturation	Int. Range [0,100]. Saturation of the camera image.
	sharpness	Int. Range [0,100]. Sharpness of the camera image.
	hlc	String. Range [on,off]. High light compensation of the camera image.
	wdr	String. Range [on,off,auto]. Wide dynamic of the camera image.
Response	NULL	
Example	request: <pre>{ "method": "setImageCommon", "params": { "luma": 100, "contrast": 50, "saturation": 50, "sharpness": 50, "hlc": "off", "wdr": "off" } }</pre>	
	response: <pre>{ "method": "setImageCommon", "errCode": 0 }</pre>	

4.17 OSD

4.17.1 getOsdFont

Name	Content	
method	getOsdFont	
Description	This API is used for getting the Osd font.	
Request	NULL	
Response	display	String. Range [ntnb, tnb, ntb, tb]. The Osd display mode supported by the device.
	size	String. Range [auto, 16*16, 32*32, 48*48, 64*64]. The device supports setting font sizes.
	color_type	String. Range [auto, user_defined, adapt]. Font color type.
	color	String. Range [black, white]. OSD font colors supported by the device.
	mode	String. Range [ttf, bit]. OSD Implementation Plan.
Example	request: <pre>{ "method": "getOsdFont" }</pre>	
	response: <pre>{ "method": "getOsdFont", "result": { "display": "ntb", "size": "auto", "color_type": "adapt", "color": "white", "mode": "ttf" }, "errCode": 0 }</pre>	

	}
--	---

4.17.2 setOsdFont

Name	Content	
method	setOsdFont	
Description	This API is used for setting the Osd font.	
Request	display	String. Range [ntnb, tnb, ntb, tb]. The Osd display mode supported by the device.
	size	String. Range [auto, 16*16, 32*32, 48*48, 64*64]. The device supports setting font sizes.
	color_type	String. Range [auto, user_defined, adapt]. Font color type.
	color	String. Range [black, white]. OSD font colors supported by the device.
	mode	String. Range [ttf, bit]. OSD Implementation Plan.
Response	NULL	
Example	request: <pre>{ "method": "setOsdFont", "params": { "display": "ntb", "size": "auto", "color_type": "adapt", "color": "white", "mode": "ttf" } }</pre>	

	response: <pre>{ "method": "setOsdFont", "errCode": 0 }</pre>
--	---

4.17.3 getOsdDate

Name	Content	
method	getOsdDate	
Description	This API is used for getting the Osd date config.	
Request	NULL	
Response	x_coor	String. Starting point x coordinate.
	y_coor	String. Starting point y coordinate.
	enabled	String. Range ["on"/"off"]. Hide/Show.
Example	request: <pre>{ "method": "getOsdDate" }</pre>	
	response: <pre>{ "method": "getOsdDate", "result": { "x_coor": "1170", "y_coor": "5390", "enabled": "on" }, "errCode": 0 }</pre>	

4.17.4 setOsdDate

Name	Content
method	setOsdDate

Description	This API is used for setting the Osd date config.	
Request	x_coor	String. Starting point x coordinate.
	y_coor	String. Starting point y coordinate.
	enabled	String. Range ["on"/"off"]. Hide/Show.
Response	NULL	
Example	request: <pre>{ "method": "setOsdDate", "params": { "x_coor": "1170", "y_coor": "5390", "enabled": "on" } }</pre>	
	response: <pre>{ "method": "setOsdDate", "errCode": 0 }</pre>	

4.17.5 getOsdChannel

Name	Content	
method	getOsdChannel	
Description	This API is used for getting the Osd label info config.	
Request	NULL	
Response	x_coor	Int. Starting point x coordinate.
	y_coor	Int. Starting point y coordinate.
	enabled	String. Range ["on"/"off"]. Hide/Show.
	text	String. Display text.

Example	request:
	<pre>{ "method": "getOsdChannel" }</pre>
	response:
	<pre>{ "method": "getOsdChannel", "result": { "label_info_1": { "x_coor": 312, "y_coor": 9222, "enabled": "on", "text": "Default-devName_Default-hwVer_9" }, "label_info_2": { "x_coor": 312, "y_coor": 8667, "enabled": "off", "text": "custom 1" }, "label_info_3": { "x_coor": 312, "y_coor": 833, "enabled": "off", "text": "custom 2" } }, "errCode": 0 }</pre>

4.17.6 setOsdChannel

Name	Content
------	---------

method	setOsdChannel	
Description	This API is used for setting the Osd Channel config.	
Request	label_info	Int. Configured label item.
	x_coor	Int. Starting point x coordinate.
	y_coor	Int. Starting point y coordinate.
	enabled	String. Range ["on"/"off"]. Hide/Show.
	text	String. Display text.
Response	NULL	
Example	request: <pre>{ "method": "setOsdChannel", "params": { "label_info": 1, "x_coor": 312, "y_coor": 9222, "enabled": "on", "text": "Default-devName_Default-hwVer_9" } }</pre>	
	response: <pre>{ "method": "setOsdChannel", "errCode": 0 }</pre>	

4.18 Privacy mask

4.18.1 getPrivacyMask

Name	Content	
method	getPrivacyMask	
Description	This API is used for getting the basic config privacy mask.	
Request	NULL	
Response	enabled	String. Range: ["on"/"off"]

	cover_type	String. Range:["0","1"],0: Privacy masking is of the black box type,1: Privacy masking is of the mosaic type.
Example	request: <pre>{ "method": "getPrivacyMask" }</pre>	
	response: <pre>{ "method": "getPrivacyMask", "result": { "enabled": "on", "cover_type": "0" }, "errCode": 0 }</pre>	

4.18.2 setPrivacyMask

Name	Content	
method	setPrivacyMask	
Description	This API is used for setting the basic config privacy mask.	
Request	enabled	String. Range:["on"/"off"]
	cover_type	String. Range:["0","1"],0: Privacy masking is of the black box type,1: Privacy masking is of the mosaic type.
Response	NULL	
Example	request: <pre>{ "method": "setPrivacyMask", "params": { "enabled": "on", "cover_type": "0" } }</pre>	

	<pre>} </pre>
	<pre>response: { "method": "setPrivacyMask", "errCode": 0 }</pre>

4.18.3 getMaskArea

Name	Content	
method	getMaskArea	
Description	This API is used for getting the privacy mask area region.	
Request	NULL	
Response	x_coor	Int. Starting point x coordinate.
	y_coor	Int. Starting point y coordinate
	width	String. Width of rectangular area
	height	String. Height of rectangular area
Example	<pre>request: { "method": "getMaskArea" }</pre>	
	<pre>response: { "method": "getMaskArea", "result": { "region_info_1": { "x_coor": 3181, "y_coor": 4253, "width": 1353,</pre>	

	<pre> "height": 1818 } }, "errCode": 0 } </pre>
--	---

4.18.4 doMaskArea

Name	Content	
method	doMaskArea	
Description	This API is used for setting the privacy mask area region.	
Request	x_coor	Int. Starting point x coordinate.
	y_coor	Int. Starting point y coordinate
	width	String. Width of rectangular area
	height	String. Height of rectangular area
Response	NULL	
Example	request: <pre> { "method": "doMaskArea", "params": { "region_info": [{ "x_coor": 3181, "y_coor": 4253, "width": 1353, "height": 1818 }] } } </pre>	
	response: <pre> { "method": "doMaskArea", "errCode": 0 } </pre>	

4.19 Alarm Output

4.19.1 getAlarmOutput

Name	Content	
method	getAlarmOutput	
Description	This API is used to get alarm output information.	
Request	NULL	
Response	enabled	String. Range:["on"/"off"]. Switch status of alarm output.
	alarm_duration	String. Alarm duration (seconds)of alarm output.
	alias	String. Alias of alarm output.
Example	request: <pre>{ "method": "getAlarmOutput" }</pre>	
	response: <pre>{ "method": "getAlarmOutput", "result": { "alarm_out_AO1": { "enabled": "on", "alarm_duration": "10", "alias": "AO1" } }, "errCode": 0 }</pre>	

4.19.2 setAlarmOutput

Name	Content
method	setAlarmOutput
Description	This API is used to set alarm output status.

Request	enabled	String. Range:["on"/"off"]. Switch status of alarm output.
	alarm_duration	String. Alarm duration (seconds)of alarm output.
	alias	String. Alias of alarm output.
Response	NULL	
Example	request: <pre>{ "method": "setAlarmOutput", "params": { "alarm_out_AO1": { "enabled": "on", "alias": "AO1", "alarm_duration": "10" } } }</pre>	
	response: <pre>{ "method": "setAlarmOutput", "errCode": 0 }</pre>	

5. OpenAPI Stream interface

The interfaces in this section are based on the RTSP protocol. See 2.1.3 for the format of the request. Streaming data is transmitted using the RTP over TCP.

5.1 preview

Name	Content	
Command	preview	
Description	Get preview data	
Request	resolutions	Array<string>. You need to obtain the resolution of

		the channel corresponding to the preview stream, which can be VGA, or HD. VGA stands for Sub Stream. HD stands for the main stream.
Response	interleaved_id	String. RTSP chn id. Indicates the track occupied by the channel. Value range: 0 to 127. Format: 'a-b': occupies the id segment from a to b. Generally, two adjacent ids, the former for video transmission and the latter for audio transmission. 'a': Occupied id a.
	av_config	Audio and video configuration
Example	request: <pre>{ "method": "get", "preview": { "resolutions": ["HD"] } }</pre>	
	response: <pre>{ "error_code": 0, "session_id": "0", "interleaved": [{ "channel": 0, "interleaved_id": "0-1" }], "av_config": [{ "channel": 0, "video_codec": "H264", "audio_codec": "G711alaw", "audio_sampling_rate": "8",</pre>	

```

    "audio_bitwidth": "16",
    "audio_channels": "1",
    "extra_data":
    {
        "video_rtpmap": "96 H264/90000",
        "video_fmtp":
        "a=fmtp:96 packetization-mode=1;
        profile-level-id=640032;
        sprop-parameter-
sets=Z2QAMqzGuAoALWhAAAD6QAAAnGgE=,aOqPLA= ="
    }
  }
]
}

```

5.2 playback

Name	Content	
Command	playback	
Description	Get playback data. (If the parameters of the playback video are inconsistent with the parameters of the current response, the device will send a notification message.)	
Request	client_id	String. The client_id is specified by the client and must be unique by the client. The client_id can contain a maximum of 64 characters, including letters, digits, and symbols.
	event_type	Array<string>. The Client is used to request the type of event that needs to be played back. Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection

		AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection
	scale	String. Playback rate and direction, use +n/m format. Positive numbers represent forward play. 1/1 means normal speed. Currently, only '+1/1' is supported
	event_type_exclude	Array<string>. Optional field that specifies the type of the event to be excluded. If not carried, it means that the event is not modified. event_type and event_type_exclude can contain only one. An empty array indicates that all events are retrieved. The value meaning of the elements in the array is the same as that of event_type.
	start_time	String. Start time, the number of seconds corresponding to the time point since 1970.1.1
	end_time	String. End time of playback, number of seconds since 1970.1.1, mandatory field.
Response	error_code	Int. The error code corresponding to the error occurs in the sequence corresponding to the channel array.
	interleaved_id	String. RTSP chn id. Indicates the track occupied by the channel. Value range: 0 to 127. Format: 'a-b': occupies the id segment from a to b. Generally, two adjacent ids, the former for video transmission and the latter for audio transmission. 'a': Occupied id a.
	av_config	Audio and video configuration

Example

request:

```
{
  "method": "get",
  "playback": {
    "client_id": "123abc",
    "scale": "+1/1",
    "event_type": ["InvasionDetection"],
    "start_time": "123123123",
    "end_time": "123123123"
  }
}
```

response:

```
{
  "error_code": 0,
  "session_id": "0",
  "interleaved": [
    {
      "channel": 0,
      "interleaved_id": "0-1"
    }
  ],
  "av_config": [
    {
      "channel": 0,
      "video_codec": "H264",
      "audio_codec": "G711alaw",
      "audio_sampling_rate": "8",
      "audio_bitwidth": "16",
      "audio_channels": "1"
    }
  ]
}
```

If the parameters of the playback video are inconsistent with the

parameters of the current response (for example, video_codec), the device will send a notification message. The following is an example of notification.

```
{
  "type": "notification",
  "params": {
    "event_type": "channel_preview_params",
    "channels": [0],
    "resolutions": ["HD"],
    "audio": ["enable"],
    "av_config": [
      {
        "channel": 0,
        "video_codec": "H264",
        "audio_codec": "G711alaw",
        "audio_sampling_rate": "8",
        "audio_bitwidth": "16"
      }
    ]
  }
}
```

5.3 download

Name	Content	
Command	download	
Description	You need to use the searchVideoList and getMediaList interfaces to obtain related information before downloading. (If the parameters of the download video are inconsistent with the parameters of the current response, the device will send a notification message.)	
Request	client_id	Int. Range[1,32].

	file_id	Optional field that uniquely identifies a media file, but can be corroborated by start_time,end_time, and event_type. Available at getMediaList
	event_type	Array<string>. The Client is used to request the type of event that needs to be downloaded. ["MotionDetection"] type value: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection
	media_type	String. Value: "video" (Currently, the download interface only supports media_type with a value of "video")
	start_time	String. Start time, the number of seconds corresponding to the time point since 1970.1.1
	end_time	String. End time, the number of seconds corresponding to the time point since 1970.1.1
Response	interleaved_id	String. 'a-b': occupies the id segment from a to b. Generally, two adjacent ids, the former for video transmission and the latter for audio transmission. 'a': Occupied id a.
	av_config	Audio and video configuration
	error_code	Integer[]. The error code corresponding to the error occurs in the sequence corresponding to the

		channel array.
Example	request: <pre> { "method": "get", "download": { "client_id": 1, "start_time": "123123123", "end_time": "1231231231", "file_id": "01230123", "event_type": ["MotionDetection"], "media_type": "video", } }</pre>	
	response: <pre> { "error_code": 0, "session_id": "xxx", "range": "x-y/n", "interleaved": [{ "channel": 0, "interleaved_id": "0-1" },], "av_config": [{ "channel": 0, "video_codec": "H264", "audio_codec": "G711alaw", "audio_sampling_rate": "8", "audio_bitwidth": "16", "audio_channels": "1" }] }</pre>	

```

    ]
  }

```

If the parameters of the download video are inconsistent with the parameters of the current response (for example, video_codec), the device will send a notification message. The following is an example of notification.

```

{
  "type": "notification",
  "params": {
    "event_type": "channel_preview_params",
    "channels": [0],
    "resolutions": ["HD"],
    "audio": ["enable"],
    "av_config": [
      {
        "channel": 0,
        "video_codec": "H264",
        "audio_codec": "G711alaw",
        "audio_sampling_rate": "8",
        "audio_bitwidth": "16"
      }
    ]
  }
}

```

5.4 stop

Name	Content
Command	stop
Description	Stop obtaining stream data
Request	null
Response	null

Example	request: <pre>{ "method": "do", "stop": "null" }</pre>
	response: <pre>{ "error_code": 0 }</pre>

5.5 play

5.5.1 Modify the parameters for obtaining data

Name	Content	
Command	Play	
Description	Change the start and end time and change rate of obtaining data.	
Request	start_time	String. Time stamp, the number of seconds since 1970.1.1.
	end_time	String. Time stamp, the number of seconds since 1970.1.1.
	scale	String. For playback services, the score format indicates the playback rate. Playback rate and direction, use +n/m format. Positive numbers represent forward play. 1/1 means normal speed. Currently, only '+1/1' is supported If it is missing, the rate is not changed.
	event_type	Array<string>. An optional field that is changed to the type of the specified event. If it is not carried, it indicates that the event is not modified. At present, the values are: Timing MotionDetection TamperDetection

		CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection
	event_type_exclude	Array<string>. Optional field that specifies the type of the event to be excluded. If not carried, it means that the event is not modified. event_type and event_type_exclude can contain only one. An empty array indicates that all events are retrieved. The fillable elements in the array are the same as those in event_type.
Response	null	
Example	request: <pre>{ "method": "do", "play": { "start_time": "123123123", "end_time": "123123123", "scale": "+n/m", "event_type": ["PeopleDetection"], } }</pre>	
	response: <pre>{ "error_code": 0 }</pre>	

5.6 video

5.6.1 force_iframe

Name	Content	
Command	force_iframe	
Description	Force the device to generate an I-frame.	
Request	stream_type	String. The stream type of the I-frame needs to be enforced Value range: main: Main stream minor: substream
Response	null	
Example	request: <pre>{ "method": "do", "video": { "force_iframe": { "stream_type": "main" } } }</pre>	
	response: <pre>{ "error_code": 0, "session_id": "xxx" }</pre>	

5.7 talk

Name	Content
Command	talk
Description	This API is used by the client to initiate an audio session. Then, the client can send audio data to the IPC. (IPC sends audio to the client through the preview stream.)

Request	mode	String, talk mode, mandatory field. Value: half_duplex: Half-duplex mode aec: AEC Full-duplex mode				
Response	null					
Example	request: { "method": "get", "talk": { "mode": "half_duplex", } }					
	response: { "error_code": 0, "session_id": "xxx" }					
	Once the client receives the correct reply, it can send the audio data to IPC. Audio data is transmitted using the RTP over TCP. Currently, only the G711 format is supported. The RTP over TCP packet format is as follows: <table><tr><td>\$ (1B)</td><td>Chn ID (1B)</td><td>Length (2B)</td><td>RTP Header</td><td>RTP Payload</td></tr></table> The RTP Header format is as follows: <pre>+-----</pre>		\$ (1B)	Chn ID (1B)	Length (2B)	RTP Header
\$ (1B)	Chn ID (1B)	Length (2B)	RTP Header	RTP Payload		

additional octets at the tail of the packet, which are not part of the payload.

X: Extended flag, 1 bit, if X=1, there is an extended header followed by the RTP header.

CC : A 4-bit CSRC counter that indicates the number of CSRC identifiers.

M: Marker, occupies 1 bit, different payloads have different meanings, for video, marks the end of a frame; For audio, mark the start of the session.

PT: The payload type, which occupies 7 bits, is used to describe the type of payload in RTP packets, such as H264/H265 and G711A/U, which is mostly used to distinguish between audio and video streams in streaming media, so that it is easy for clients to parse them. For the value of PT, see RFC3551 and Appendix 2 (this document).

Sequence number: occupies 16 digits and identifies the sequence number of the RTP message sent by the sender, with the sequence number incrementing for each packet sent. This field can be used to check packet loss. Simultaneous network jitter can be used to reorder the data, starting at 0 on the Helix server, and counting the audio and video packets separately.

Timestamp: 32 bits, timestamp indicates the time when the first byte of the RTP packet was sampled. The receiver uses timestamps to calculate delay and delay jitter and synchronize control.

Synchronous Source (SSRC) Identifier: 32 bits and is used to identify the synchronous source. The identifier is chosen randomly, and two simultaneous sources participating in the same video conference cannot have the same SSRC.

RTP Payload is the G711 payload.

Generally, different voices have different packaging cycles, and different packaging cycles correspond to different timestamps. Take G711 with a packaging period of 10ms as an example, the sample rate is 8000, the frame rate is 100, and the increment of RTP timestamp between two frames = $8000/100=80$, which is also the g711 data size of each rtp packet.

5.8 User audio upload

Name	Content
Command	user audio upload
Description	This API is used by the client to send user audio file data to the IPC.

Request	usr_audio	audio_id: Which audio file will be used to save the audio file.It must be 101 or 102 or 103, any other id is invalid. audio_name: The name of audio file saved, and will be get by getUserAudioInfo. Audio file names must be 32 bytes or less.				
Response	null					
Example	request: { "method":"do", "usr_audio":{ "audio_id":"103", "audio_name":"hhh" } }					
	response: { "error_code":0, "session_id":"xxx" }					
	Once the client receives the correct reply, it can send the audio data to IPC. Audio data is transmitted using the RTP over TCP. RTP Payload is the audio file data. Allowed audio files: 1. WAV: mono audio, duration ≤ 15 seconds, file size ≤ 256KB, sampling rate = 8kHz. 2. MP3: mono audio, duration ≤ 15 seconds, file size ≤ 128KB, encoding rate (bit rate) ≤ 64kbps. The RTP over TCP packet format is as follows: <table><tr><td>\$ (1B)</td><td>Chn ID (1B)</td><td>Length (2B)</td><td>RTP Header</td><td>RTP Payload</td></tr></table> The RTP Header format is as follows: +--+		\$ (1B)	Chn ID (1B)	Length (2B)	RTP Header
\$ (1B)	Chn ID (1B)	Length (2B)	RTP Header	RTP Payload		

```

+-----+
|SSRC|
+-----+

```

Important field descriptions:

V : The version number of the RTP protocol, accounting for 2 digits, and the current protocol version number is 2.

P: Padding the flag, which occupies 1 bit, and if P=1, padding one or more additional octets at the tail of the packet, which are not part of the payload.

X: Extended flag, 1 bit, if X=1, there is an extended header followed by the RTP header.

CC : A 4-bit CSRC counter that indicates the number of CSRC identifiers.

M: Marker, occupies 1 bit, different payloads have different meanings, for video, marks the end of a frame; For audio, mark the start of the session.

PT: The payload type, which occupies 7 bits, is used to describe the type of payload in RTP packets, such as H264/H265 and G711A/U, which is mostly used to distinguish between audio and video streams in streaming media, so that it is easy for clients to parse them. For the value of PT, see RFC3551 and Appendix 2 (this document).

Sequence number: occupies 16 digits and identifies the sequence number of the RTP message sent by the sender, with the sequence number incrementing for each packet sent. This field can be used to check packet loss. Simultaneous network jitter can be used to reorder the data, starting at 0 on the Helix server, and counting the audio and video packets separately.

Timestamp: 32 bits, timestamp indicates the time when the first byte of the RTP packet was sampled. The receiver uses timestamps to calculate delay and delay jitter and synchronize control.

Synchronous Source (SSRC) Identifier: 32 bits and is used to identify the synchronous source. The identifier is chosen randomly, and two simultaneous sources participating in the same video conference cannot have the same SSRC.

RTP Payload is the audio file data.

Allowed audio files:

1. WAV: mono audio, duration ≤ 15 seconds, file size ≤ 256 KB, sampling rate = 8kHz.
2. MP3: mono audio, duration ≤ 15 seconds, file size ≤ 128 KB, encoding rate (bit rate) ≤ 64 kbps.

Appendix 1 Error code information

Error code information about OpenAPI Initialization interface

error_code	errMsg
-40101	System Error
-40209	Param Error
-40210	Format Error
-40211	Lack of param
-40215	Decrypt Error
-40216	Encrypt Error
-50932	Device has been initialized
-70320	Password is too simple

Error code information about OpenAPI interface

errCode	errMsg
-10000	Other err
-10001	Json parse failed
-10002	Unauthorized Error
-10003	Method not support
-10004	No method in request
-10005	No params in request
-10006	Parameter value not exist
-10007	Multiple request has no requests
-10008	Requests in multipleRequest is not an array
-10009	The format error
-10010	The parameter error
-10011	The number of clients used for playback reached the limit
-10012	Client id is occupied or invalid
-10013	Storage device does not exist
-10014	Failed to search for events
-10015	The request failed, please restart the request
-10016	The motor arrives at the stalled rotor
-10020	Authentication failed or password error
-10021	Authentication failed because the number of supported clients is exceeded
-10022	The number of retries has been exceeded, and it has been locked
-10030	Unsupported directives

Error code information about Stream interface

errCode	errMsg
-501	Json error

-502	Json parse error
-52410	Json already talk
-52405	Session up to limit

Appendix 2 Payload Type

PT of RTP, 96-127 is dynamic. There is no universal definition for dynamic PT except that 96 is conventionally used for H264/H265. Therefore, in this document, some dynamic PT types are used as auxiliary data types for events transmission and other functions. The value of the audio part is the same as that of RFC3551. The PT values used in this document are shown in the table below.

Payload Type

Type value	Type of payload	Reference format
96	H.264/H265, Video	
0	G711U/PCMU, Audio	RFC 3551
8	G711A/PCMA, Audio	RFC 3551

Appendix 3 area about 'setTimeZone'

AREA
Pacific/Wake
Pacific/Midway
Pacific/Honolulu
America/Anchorage
America/Los_Angeles
America/Phoenix
America/Chihuahua
America/Denver
America/Tegucigalpa
America/Chicago
America/Mexico_City
Canada/Saskatchewan
America/Bogota
America/New_York
America/Indiana/Indianapolis
America/Caracas
America/Asuncion
America/Halifax
America/Cuiaba
America/La_Paz
America/Santiago
Canada/Newfoundland
America/Sao_Paulo
America/Buenos_Aires
America/Cayenne
America/Godthab
America/Montevideo
Atlantic/South_Georgia
Atlantic/Azores
Atlantic/Cape_Verde
Africa/Casablanca
UTC
Europe/London
Atlantic/Reykjavik
Europe/Amsterdam
Europe/Belgrade
Europe/Brussels
Europe/Sarajevo
Africa/Algiers
Europe/Athens
Asia/Beirut

Africa/Cairo
Asia/Damascus
Africa/Harare
Europe/Vilnius
Asia/Jerusalem
Asia/Amman
Asia/Baghdad
Europe/Minsk
Asia/Kuwait
Africa/Nairobi
Asia/Istanbul
Europe/Moscow
Asia/Tehran
Asia/Muscat
Asia/Baku
Asia/Tbilisi
Asia/Yerevan
Asia/Kabul
Asia/Karachi
Asia/Yekaterinburg
Asia/Tashkent
Asia/Kolkata
Asia/Colombo
Asia/Katmandu
Asia/Dhaka
Asia/Rangoon
Asia/Bangkok
Asia/Novosibirsk
Asia/Krasnoyarsk
Asia/Hong_Kong
Asia/Kuala_Lumpur
Australia/Perth
Asia/Taipei
Asia/Ulaanbaatar
Asia/Irkutsk
Asia/Tokyo
Asia/Seoul
Asia/Yakutsk
Australia/Adelaide
Australia/Darwin
Australia/Brisbane
Australia/Canberra
Pacific/Guam

Australia/Hobart
Asia/Vladivostok
Pacific/Noumea
Asia/Magadan
Pacific/Auckland
Pacific/Fiji
Asia/Kamchatka
Pacific/Tongatapu