

TP-LINK TECHNOLOGIES CO., LTD.

VIGI Open API Document

Directory

1.	INTRODUCE.....	1
2.	OPENAPI TRANSACTION	1
2.1	REQUEST FORMAT	1
2.1.1	The request format of OpenAPI Discovery.....	1
2.1.2	The request format of OpenAPI control interface	1
2.1.3	The request format of OpenAPI stream interface	1
2.2	AUTHENTICATION	2
2.2.1	Method:doAuth.....	2
2.2.2	Digest Authentication	2
2.3	DATA TRANSMISSION	3
3.	OPENAPI DISCOVERY PROTOCOL	3
3.1	ODP PACKET	3
3.2	REPLY PACKET FORMAT	5
4.	OPENAPI INTERFACE	5
4.1	SPECIAL INTERFACE.....	6
4.1.1	doAuth	6
4.1.2	getModuleList.....	6
4.2	SYSTEM.....	9
4.2.1	getDeviceInfo	9
4.2.2	setDeviceAlias.....	10
4.2.3	getDeviceAlias	11
4.2.4	doSoftReset.....	12
4.2.5	searchSystemLog	12
4.2.6	getDeviceStatus.....	13
4.3	DATE TIME.....	14
4.3.1	setTimeZone	14
4.3.2	getTimeZone	15
4.3.3	setSystemTime	16
4.3.4	getSystemTime	17
4.4	AUDIO	17
4.4.1	setSpeakerVolume.....	17
4.4.2	getSpeakerVolume	18
4.4.3	setMicrophoneVolume	19
4.4.4	getMicrophoneVolume.....	19
4.4.5	getAudioCapability	20
4.5	VIDEO	21
4.5.1	setResolution.....	21
4.5.2	getResolution	22
4.5.3	getVideoCapability	23
4.6	DAYNIGHTMODE.....	24
4.6.1	setDayNightMode	24
4.6.2	getDayNightMode	25

4.7	SDCARD.....	25
4.7.1	formatSdCard.....	25
4.7.2	getSdCardStatus.....	26
4.8	EVENT DETECTION.....	28
4.8.1	setMotionDetectionSwitch	28
4.8.2	getMotionDetectionSwitch	30
4.8.3	setMotionDetectionRegion	31
4.8.4	getMotionDetectionRegion	32
4.8.5	setCrosslineDetectionSwitch.....	34
4.8.6	getCrosslineDetectionSwitch.....	35
4.8.7	setCrosslineDetectionRegion	36
4.8.8	getCrosslineDetectionRegion	38
4.8.9	setInvasionDetectionSwitch.....	40
4.8.10	getInvasionDetectionSwitch	41
4.8.11	setInvasionDetectionRegion.....	42
4.8.12	getInvasionDetectionRegion.....	44
4.8.13	setTamperDetectionSwitch.....	46
4.8.14	getTamperDetectionSwitch	47
4.8.15	setPeopleDetectionSwitch.....	48
4.8.16	getPeopleDetectionSwitch.....	49
4.8.17	setPeopleDetectionRegion	50
4.8.18	getPeopleDetectionRegion.....	51
4.8.19	setVehicleDetectionSwitch	53
4.8.20	getVehicleDetectionSwitch	54
4.8.21	setVehicleDetectionRegion	55
4.8.22	getVehicleDetectionRegion	56
4.8.23	setAreaEntryDetectionSwitch.....	58
4.8.24	getAreaEntryDetectionSwitch.....	59
4.8.25	setAreaEntryDetectionRegion	60
4.8.26	getAreaEntryDetectionRegion.....	61
4.8.27	setAreaLeaveDetectionSwitch	63
4.8.28	getAreaLeaveDetectionSwitch	64
4.8.29	setAreaLeaveDetectionRegion.....	65
4.8.30	getAreaLeaveDetectionRegion	67
4.8.31	setDropAndTakeDetectionSwitch.....	69
4.8.32	getDropAndTakeDetectionSwitch	70
4.8.33	setDropAndTakeDetectionRegion.....	71
4.8.34	getDropAndTakeDetectionRegion	72
4.8.35	setLoiterDetectionSwitch	74
4.8.36	getLoiterDetectionSwitch	75
4.8.37	setLoiterDetectionRegion	76
4.8.38	getLoiterDetectionRegion	78
4.8.39	setSceneChangeDetectionSwitch.....	79
4.8.40	getSceneChangeDetectionSwitch.....	80
4.8.41	setAudioAnomalyDetectionSwitch.....	81
4.8.42	getAudioAnomalyDetectionSwitch	83

4.8.43	getEventEnhanceCapability	84
4.9	PTZ	85
4.9.1	getPresetPoint.....	85
4.9.2	motorMove	86
4.9.3	cruiseMove	87
4.9.4	stopMove.....	88
4.9.5	setPresetPoint.....	88
4.9.6	removePresetPoint	89
4.9.7	gotoPresetPoint.....	90
4.9.8	getPTZCapability.....	91
4.10	PLAYBACK	91
4.10.1	searchVideoCalendar	91
4.10.2	searchVideoList.....	92
4.10.3	getUserId.....	94
4.11	DOWNLOAD.....	95
4.11.1	getMediaList.....	95
4.12	STREAMPORT	98
4.12.1	getStreamPort	98
4.13	MSGPUSH	99
4.13.1	subscribeMsg	99
4.13.2	setMsgpushInterval.....	101
4.13.3	getMsgpushInterval.....	102
4.14	RECORDSCHEDULE	102
4.14.1	setRecordSchedule.....	102
4.14.2	getRecordSchedule	103
4.15	ALARM.....	105
4.15.1	manualAlarm	105
5.	OPENAPI STREAM INTERFACE.....	106
5.1	PREVIEW	106
5.2	PLAYBACK	108
5.3	DOWNLOAD.....	110
5.4	STOP	113
5.5	PLAY.....	114
5.5.1	Modify the parameters for obtaining data.....	114
5.6	VIDEO	115
5.6.1	force_iframe.....	115
5.7	TALK.....	116
APPENDIX I	ERROR CODE INFORMATION	119
APPENDIX II	PAYLOAD TYPE	121
APPENDIX III	AREA ABOUT 'SETTIMEZONE'	122

1. Introduce

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 RTSP format.

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 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.

2.2 Authentication

2.2.1 Method:doAuth

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

The format of the ‘doAuth’ is as follows:

```
POST https://device_addr:20443 HTTP/1.1
Content-Type: application/json
Content-Length: xxx
{"method":"doAuth","params":{"...}}
```

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://192.168.1.10/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 >"

/* authentication request */
C->S:  MULTITRANS rtsp://192.168.1.10/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 : //192 .168.1.10 /multitrans",
response="<MD5 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)
---------	-------------	-------------

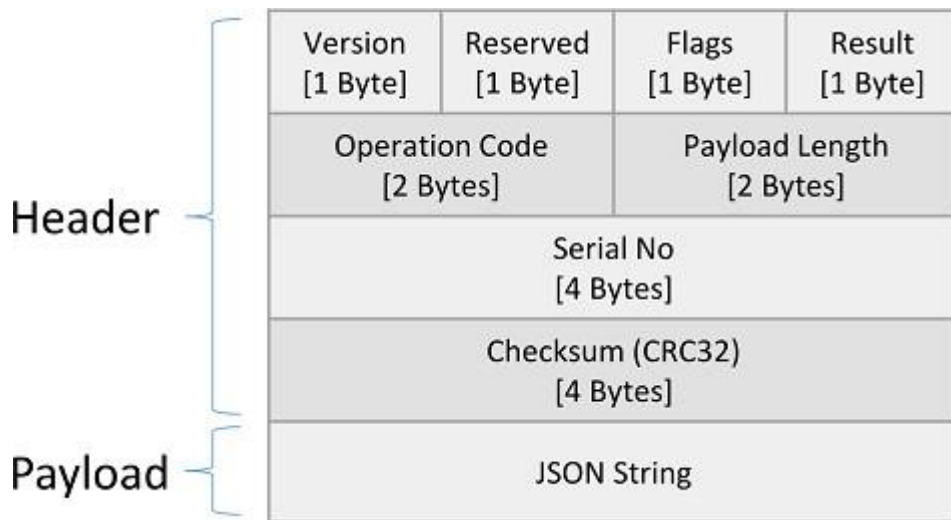
3. OpenAPI Discovery Protocol

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 port is 23001, 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
Reserved	1	t_uint8	Reserved field, don't care about the value
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 *	

3.2 Reply 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: XXXXXXXXXXXX, in all uppercase) (Unique identifier of the device)
	factory_default Bool	Whether it is in factory condition. true indicates factory status; otherwise, non-factory status.
	http_port int	Local http access port, 80/443, etc

The following is an example of device reply data:

```
{
  "error_code": 0,
  "result": {
    "device_name": "XXXXXX",
    "device_type": "SMART.IPCAMERA",
    "device_model": "XXXXXX",
    "ip": "192.168.0.60",
    "mac": "AABBCCDDEEFF",
    "factory_default": true,
    "http_port": 443
  }
}
```

4. OpenAPI 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	
Request	password	string[], the MD5 value of the ipc password
	passwdType	string[], Currently, only md5 is supported.
Response	stok	string[32], token required for control protocol instruction authentication. wireless module interfaces do not need to carry tokens. All other control interfaces need to carry tokens. The token aging time is half an hour
Example	request: { "method": "doAuth", "params": { "password": "C6A173D4EC7FB10AC11B5E37C975D453", "passwdType": "md5" } }	
	response: { "method": "doAuth", "errCode": 0, "stok": "C2em0U1rQIYKvHmkvuykSurbq3Xvm23P" }	

4.1.2 getModuleList

Name	Content			
Command	getModuleList			
Description	This API is used for getting module list			
Request	NULL			
Response	moduleList	array	name	string, [0,32], module name
			version	number, version of the current.

Example	request: <pre> { "method": "getModuleList" } </pre>
	response: <pre> { "method": "getModuleList", "result": { "moduleList": [{ "name": "system", "version": 1 }, { "name": "dateTime", "version": 1 }, { "name": "wireless", "version": 1 }, { "name": "audio_speaker", "version": 1 }, { "name": "audio_microphone", "version": 1 }, { "name": "video", "version": 1 }, { "name": "dayNightMode", "version": 1 },], } } </pre>

```

        {
            "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
wireless	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

4.2system

4.2.1 getDeviceInfo

Name	Content		
method	getDeviceInfo		
Description	This API is used for getting the device information.		
Request	NULL		
Response	deviceInfo	alias	string, [1,32], the alias of the device.

		type	string, [0,256], device type.
		model	string, [0,32].
		mac	string, the MAC address in the format like "AA-BB-CC-DD-EE-FF".
		hwId	string, [32], HW_ID
		oemId	string, [32], OEM_ID
		deviceId	string, [40], device id
		hwVer	string, [3, 5], hardware version.
		swVer	string, [0,256], software version with country code.
Example	request: { "method": "getDeviceInfo" }		
	response: { "method": "getDeviceInfo", "errCode": 0, "result": { "alias": "!@#\$\$%^&*()_+ { }:\\"<>?-=\\[];',./", "type": "SMART.IPCAMERA", "model": "C100", "mac": "00-0A-EB-01-88-11", "hwId": "5AC4CF9E3183C16825EB28BC3C27059C" , "oemId": "A4551BD7CF274B28C532A79E87B9FFB5", "deviceId": "80217D4B87B119E91F1EB085EE1000C100112001", "hwVer": "1.0", "swVer": "1.0.0 Build 202011 Rel.65962n(4555) " } }		

4.2.2 setDeviceAlias

Name	Content
Command	setDeviceAlias

Description	This API is used for setting device alias.	
Request	alias	string, [1,32], 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, [1,32], 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 doSoftReset

Name	Content
Command	doSoftReset
Description	This API is used for resetting device in local network
Request	NULL
Response	NULL
Example	request: { "method": "doSoftReset" }
	response: { "method": "doSoftReset", "errCode": 0, }

4.2.5 searchSystemLog

Name	Content	
Command	searchSystemLog	
Description	This API is used to search system logs	
Request	start_time	The number of seconds since the start time of the system log query, from 1970.1.1 zero to the present
	end_time	The syslog end time of the query, the number of seconds since 1970.1.1 zero to the present
	log_type	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

		<p>is operation, and 4 is information</p> <p>date: The time the log was generated. The format is the number of seconds from January 1, 1970 to the present.</p> <p>module: The name of the module that generated the log</p> <p>message: The content of the log</p>
	total	Total log entries, which refers to logs that meet the query criteria, not all logs
Example	<p>request:</p> <pre>{ "method": "searchSystemLog", "params": { "start_time": "1691976514", "end_time": "1692581314", "log_type": "all", } }</pre> <p>response:</p> <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>	

4.2.6 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, [1,15], time zone, the format must be similar to "UTC+hh:mm" or "UTC-hh:mm" .
	area	string, [1,63], reference to Appendix III.
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, [1,15], time zone
	area	string, [1,63], reference to Appendix III.
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: { "method": "getSystemTime" }	
	response: { "method": "getSystemTime", "result": { "system_time": 1692862677 }, "errCode": 0 }	

4.4 audio

4.4.1 setSpeakerVolume

Name	Content	
Command	setSpeakerVolume	
Description	This API is used for setting speaker volume.	
Request	volume	int, [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, [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, [0-100], for current microphone volume.
Response	NULL	
Example	request: { "method": "setMicrophoneVolume", "params": { "volume": 50 } }	
	response: { "method": "setMicrophoneVolume", "errCode":0 }	

4.4.4 getMicrophoneVolume

Name	Content	
Command	getMicrophoneVolume	
Description	This API is used for getting microphone volume.	
Request	NULL	
Response	volume	int, [0-100], for current microphone volume.
Example	request: { "method": "getMicrophoneVolume" }	

	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 Currently, you can only set the volume.
Example	request: <pre>{ "method": "getAudioCapability", }</pre>	

	<pre> response: { "method": "getAudioCapability", "errCode": 0, "result": { "speaker": { "volume": "1" }, "microphone": { "volume": "1" } } } </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, { "2560*1440", "2304*1296", "2048*1280", "1920*1080", "1280*720" } Range reference interface 'getVideoCapability'
	minor_resolution	string, { "640*480", "352*288", "320*240" } Range reference interface 'getVideoCapability'
	At least one in main/minor_resolution	
Response	NULL	

Example	request: <pre>{ "method": "setResolution", "params": { "main_resolution": "2560*1440" } }</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": {</pre>	

	<pre> "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	string array, ["1920x1080", "1280x960", "1280x720", "704x576", "640x360"], the option of resolutions.
Example	request: <pre> { "method": "getVideoCapability" } </pre>	
	response: <pre> { "method": "getVideoCapability", "result": { "main": { "resolutions": ["2560*1440", "2304*1296", "2048*1280", "1920*1080", "1280*720"] }, </pre>	

```

        "minor": {
            "resolutions": [
                "640*480",
                "352*288",
                "320*240"
            ]
        },
        "errCode": 0
    }

```

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"}, default is "auto".
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"}, default is "auto".
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(optional)	int, [1, 2, ...], 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, [1,2,...], 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 , precentage 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>		

	<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" } } </pre>
--	---

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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	enhance_validity	String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Example	request: <pre>{ "method": "getMotionDetectionSwitch" }</pre>	

	response: <pre> { "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" } } </pre>
--	---

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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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
	points_x	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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": { "points_num": 4, "points_x": [806, 4536, 5262, 2883], </pre>	

	<pre> "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 } </pre>
--	---

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

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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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.
		vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
		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", </pre>		

	<pre> "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], "sensitivity": 70, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" }] } } </pre>
	<p>response:</p> <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	Integer array. An array representing the x-coordinate of the i-th point in a set of points
	points_y	Integer array. 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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	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, "points_num": 4, "direction": "AtoB", "points_x": [</pre>	

	<pre> 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 } </pre>
--	---

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", "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	Integer array. An array representing the x-coordinate of the i-th point in a set of

			points. x-range[0,10000]
		points_y	Integer array. 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.
		vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
		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, "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" }] } }</pre>		

	<pre> }, { "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>
	<p>response:</p> <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	Integer array. An array representing the x-coordinate of the i-th point in a set of points
	points_y	Integer array. 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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	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] } } }</pre>	

	<pre>], "sensitivity": 50, "threshold": 5, "percentage": 20, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" } }, "errCode": 0 } </pre>
--	--

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", "record_enabled": "on", } }</pre>	
	response: <pre>{ "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" }, "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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, 0], "points_y": [0, 0, 10000, 10000] } }, "errCode": 0 }</pre>	

	}
--	---

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>	

	<pre> } } </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" }, "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000]

Response	NULL
Example	<p>request:</p> <pre>{ "method": "setVehicleDetectionRegion", "params": { "set_region_info": [{ "id": 1, "points_num": 4, "points_x": [1000, 9000, 9000, 1000], "points_y": [1000, 1000, 9000, 9000] }, { "id": 2, "points_num": 4, "points_x": [0, 1000, 1000, 0], "points_y": [0, 0, 1000, 1000] }] } }</pre> <p>response:</p> <pre>{ "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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: <pre>{ "method": "setAreaEntryDetectionSwitch", "errCode": 0 }</pre>	

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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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.
		vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
		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],</pre>		

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

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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	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] } } }</pre>	

	<pre>], "sensitivity": 50, "people_enhance": "off", "vehicle_enhance": "off", "enhance_validity": "medium" } }, "errCode": 0 } </pre>
--	--

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", "light_alarm_enabled": "on", "msg_push_enabled": "off", "record_enabled": "off", </pre>	

	<pre> } } </pre>
	response: <pre> { "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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.
		vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
		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>		

	<pre>] }, } </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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	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" } }, "errCode": 0 } </pre>

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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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: { "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, "threshold": 16,		

	<pre> "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>
	<p>response:</p> <pre> { "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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, 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>{ "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",</pre>	

	<pre> "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
		points_y	Integer array. 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.
		vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
		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>
	response: <pre> { "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	Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000]
	points_y	Integer array. 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.
	vehicle_enhance	string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area.
	enhance_validity	String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement
Example	request: { "method": "getLoiterDetectionRegion" }	
	response: { "method": "getLoiterDetectionRegion", "result": { "region_info_1": {	

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

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>{ "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", "sensitivity": 30 }, "errCode": 0 }</pre>	

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>{ "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
	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",</pre>	

	<pre> "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	<p>Integer strings. Humanoid enhancement is based on the following matching rules:</p> <p>1: MotionDetection 2: CrossLineDetection 4: InvasionDetection 8: AreaEntryDetection 16: AreaLeaveDetection 32: LoiterDetection</p> <p>Support bitwise or, such as 3 indicates that humanoid enhancement is supported in motion detection and crossline detection</p>
	vehicle_enhance_ver	<p>Integer strings. Vehicle enhancement is based on the following matching rules:</p> <p>1: MotionDetection 2: CrossLineDetection 4: InvasionDetection 8: AreaEntryDetection 16: AreaLeaveDetection 32: LoiterDetection</p> <p>Support bitwise or, such as 3 indicates that vehicle enhancement is supported in motion detection and crossline detection</p>

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

4.9 ptz

4.9.1 getPresetPoint

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

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

4.9.2 motorMove

Name	Content	
Command	motorMove	
Description	This API is used for absolute movement	
Request	x_coord	Float, range in [-1,1]
	y_coord	Float, range in [-1,1]
	z_coord	Float, range in [0,1] (Only essential when ptz_zoom is supported)
Response	NULL	
Example	<pre> request: { "method": "motorMove", "params": </pre>	

	<pre> { "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)	Floating-point strings. The speed at which the coord direction is moving. The maximum speed is 1.000000
Response	NULL	
Example	request: <pre> { "method": "cruiseMove", "params": { "coord": "y", } } </pre>	

	response: <pre>{ "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	<div>id</div> <div>Int, Presets a point-unique identifier, incrementing from 1 to a maximum of 8</div>

	name	String, The name of the preset point
Response	id	Int, 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	An array of integer strings. Presets a point-unique identifier, incrementing from 1 to a maximum of 8
Response	NULL	
Example	request: <pre>{ "method": "removePresetPoint", "params": { </pre>	

	<pre> "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	Int, Presets a point-unique identifier, incrementing from 1 to a maximum of 8
Response	NULL	
Example	request: <pre> { "method": "gotoPresetPoint", "params": { "id":"3", } } </pre>	
	response: <pre> { "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	request: { "method": "getPTZCapability" }	
	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, [6], start time of search date, the parameter format is yyyymm .
	end_date	string, [6], end time of search date, the parameter format is yyyymm .
Response	search_results	array, all recording dates within the given date, count by day, named by yyyymmdd
Example	request: <pre>{ "method": "searchVideoCalendar", "params": { "start_date": "202103", "end_date": "202104" } }</pre>	
	response: <pre>{ "method": "searchVideoCalendar", "errCode": 0, "result": { "dates": ["20210303", "20210304", "20210305", "20210306", "20210307"] } }</pre>	

4.10.2 searchVideoList

Name	Content	
Command	searchVideoList	
Description	get all the video information in a specific UTC time interval	
Request	date	string, [8], end time of search date, the parameter format is yyyymmdd .

	start_index	uint32_t, the start index (including) of the query result. 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.
	end_index	uint32_t, the end index (including) of the query result.
	user_id (optional)	int, user id, return by getUserID command
	startTime	uint64_t, video start time, seconds since zero hour on January 1, 1970
	endTime	uint64_t, video end time, seconds since zero hour on January 1, 1970
Response	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:
{
  "method": "searchVideoList",
  "result": {
    "search_video_results": [
      {
        "search_video_results_1": {
          "startTime": 1662975800,
          "endTime": 1662975818,
          "video_type": "Timing"
        }
      },
      {
        "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	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	string[]. Media file type, represented as an array. ["video"] (Currently, the download interface only supports media_type with a value of "video")
	start_index	Integer, 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	Integer, 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
Response	error_code	Integer, Error code
	start_time	String[], Start time, the number of seconds since 1970.1.1. The default value is "".
	end_time	String[], End time, the number of seconds since 1970.1.1 0. The default value is "".
	size	Integer[]. The size of the file, in bytes, is 0 by default
	file_id	String[]. File name, a uniquely identified file. The default value is ""
	event_type	string[]. Event type, represented as an array ["MotionDetection", " DropAndTakeDetection ", ...] type value: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection

		VehicleDetection DropAndTakeDetection
	media_type	string[]. Media file type, represented as an array. ["video"] (Currently, the download interface only supports media_type with a value of "video")
	index (optional)	Integer[]. Index number, starting with start_index in the request. The default value is 0
	rest_num	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", "DropAndTakeDetection"], "media_type" : ["video"], "start_index" : 0, "max_num" : 20 } }</pre>	
	response: <pre>{ "media": { "total_num": "2", "start_time": ["1688350527", "1688351737"], "end_time": ["1688350546", "1688351757"], "size": [</pre>	

	<pre> 3467800, 963784], "file_id": ["000100000000001", "000100000000002"], "event_type": ["MotionDetection", "DropAndTakeDetection"], "media_type": ["video", "video"], }, "error_code": 0 } </pre>
--	--

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	<p>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.</p> <p>(Note that if you want to get certain types of event detection messages, you need to enable "msg_push_enabled" in the corresponding event)</p>	
Request	event_type	<p>String[].</p> <p>The event type to which you subscribed.</p> <p>Value range:</p> <p>"all",</p> <p>"MotionDetection",</p> <p>"TamperDetection",</p> <p>"CrossLineDetection",</p> <p>"InvasionDetection",</p> <p>"AreaEntryDetection",</p> <p>"AreaLeaveDetection",</p> <p>"PeopleDetection",</p> <p>"VehicleDetection",</p> <p>"DropAndTakeDetection",</p> <p>"LoiterDetection",</p> <p>"SceneChangeDetection",</p> <p>"AudioAnomalyDetection"</p>

	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	<p>request:</p> <pre>{ "method": "subscribeMsg", "params": { "event_type":["MotionDetection","InvasionDetection"], "heartbeat":15 } }</pre> <p>response:</p> <p>(After sending a subscription request, the device first returns a successful/failed result and boundary format.)</p> <p>*****</p> <p>Cache-Control: no-cache Content-Type: multipart/mixed;boundary=--boundary--</p> <p>---boundary-- Content-Type: application/json Content-Length: 32</p> <p>{"result":"success","errCode":0}</p> <p>*****</p> <p><u>Or</u></p> <p>*****</p> <p>Cache-Control: no-cache Content-Type: application/json Content-Length: 31</p> <p>{"result":"failed","errCode":0}</p> <p>*****</p> <p>(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)</p> <p>*****</p> <p>---boundary-- Content-Type: application/json</p>	

	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: { "method": "setMsgpushInterval", "params": { "event_interval":60 } }	
	response: { "method": "setMsgpushInterval", "errCode": 0 }	

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	String array 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
	tuesday	
	wednesday	
	thursday	

	<div>friday</div> <div>saturday</div> <div>sunday</div>	<p>is represented by an integer, with 1 representing timing; 2 represents event triggering.</p> <p>2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24</p> <p>(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)</p>
Response	NULL	
Example	<p>request:</p> <pre>{ "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"] } }</pre> <p>response:</p> <pre>{ "method": "setRecordSchedule", "errCode": 0 }</pre>	

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	String array 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: { "method": "getRecordSchedule", }	
	response: { "method": "getRecordSchedule", "result": { "enabled": "off", "monday": ["0000-2400:2"], "tuesday": ["0000-2400:2"], "wednesday": ["0000-2400:2"], "thursday": ["0000-2400:2"]	

	<pre>], "friday": ["0000-2400:2"], "saturday": ["0000-2400:2"], "sunday": ["0000-2400:2"] }, "errCode": 0 } </pre>
--	---

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>
--	--

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	String[]. You need to obtain the resolution of the channel corresponding to the preview stream, which can be VGA, or HD. This field is mandatory for multistream machines, and an error is returned if it is missing. Is an optional field for the model with a single bit stream. If this field is missing, the current effective bit stream is obtained. If this field is carried, it indicates the bitstream for which a specific resolution needs to be forcibly obtained.
Response	interleaved	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", "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=Z2QAMqzGuAoALWhAAAD6QAAnGgE=aOqPLA==" } }]] } </pre>

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, 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	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	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	Time Stamp. 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_list	Json. Optional field that cannot be completed due to an error in the required playback channel (such as insufficient resources to store the index). If no errors occur, this field can be omitted

Example	channels	Integer[]. The array of channels where the error occurred
	error_code	Integer[]. 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
	request: <pre>{ "method": "get", "playback": { "client_id": "123abc", "scale": "+1/1", "event_type": ["InvasionDetection"], "start_time": "123123123", "end_time": "123123123" } }</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", "audio_bitwidth": "16", "audio_channels": "1" }] }</pre>	

```

    }
  ]
}

```

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 interface 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.)	
	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	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	Time Stamp, 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	range	String, Optional field to control the range of content to be transmitted (breakpoint resumable function is enabled) Response: The format is X-y /n, meaning that the transmission is from x Byte to y Byte, and the total transmission content is n bytes. The y and n here can also be missing. If request does not carry this field, response does not need to carry this field either. If the request contains this field but does not support this function, 0-y/n is returned. If y and n are unknown, 0- is returned. The client must also save the file from scratch.
	interleaved	Table[]. '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	<div> <div>error_code</div> <div>Integer[]. The error code corresponding to the error occurs in the sequence corresponding to the channel array.</div> </div>
	<div> <div> request: <pre>{ "method": "get", "download": { "client_id": 0, "start_time": "123123123", "end_time": "1231231231", "file_id": "01230123", "event_type": ["MotionDetection"], "media_type": "video", } }</pre> </div> <div> 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> </div> <div> <p>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.</p> </div> </div>

```

{
  "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. Request: Indicates the start time to be set. This is an optional field Response: Indicates the actual start time. This is an optional field. If this function is not supported, no reply is required
	end_time	String. Time stamp, the number of seconds since 1970.1.1. Request: Indicates the end time to be set. This field is optional. If it is not included, it does not change. Response: indicates the actual end time. Optional field. If the corresponding field is not included in the request, it is not included in the reply. If this feature is included in the request but is not supported, no reply is required.
	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 Request: Indicates the rate to be set. If it is missing, the rate is not changed. Response: Indicates the actual rate. This is an optional field.
	event_type	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	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.
Response Example	Null 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 default: If the current video stream is not played using the standard RTSP protocol, default indicates main
Response Example	null 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	

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 II (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 when the bearer protocol of the lower layer uses UDP, and when the network condition is bad. 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.

Appendix Payload Type

For the value of PT in RTP packets, see RFC3551.

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. GB28181 provides suggestions for the Payload Type of RTP. The value of the audio part is the same as that of RFC3551. This document adopts the recommended dynamic PT value of the video part, as shown in the following table.

Table 4 - 1 GB28181 Video section Payload Type

Type value	Type of payload	Reference format
97	MPEG-4, Video	RFC 3016
98	H.264, Video	RFC 3984
99	SVAC, Video	RFC 3984
8	G711A/PCMA, Audio	RFC 3551
20	SVACA, Audio	RFC 3551
4	G723, Audio	RFC 3551
18	G729, Audio	RFC 3551
9	G722, Audio	RFC 3551

Dynamic PT=96, still reserved for H.264 for compatibility. That is, the PT value of H.264 can be 96 or 98.

Appendix 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