PoE & WiFi IP Cameras

HTTP CGI User Manual

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Abstract

HTTP CGI is mainly for the integration with the third-party network management devices or software. The document describes the HTTP CGI of the IP cameras, the developer can use the document to finish the integration the IP cameras into your management system.

Who Can Use the Document

The developer who are making the IP Cameras integration application development.

Development Platform

The interfaces can be used in cross platforms development like ARM, Windows, or Linux on X86 etc.

Update History

Updated History			
NO.	Updated Contents	Responsible	Time
1	The first release	Tony	2015.04.08
2	Audio capacity add: bit width, please check the red fonts in "media";	Jerry	2015.06.23
3	Add: Get, Add, Modify, Delete User information parameters Command; please refer to 1.5 Interface of user management in 1. system;	Jerry	2015.07.23
4	Add: Get and Set OSD parameters command; please refer to 3.12 Get and Set OSD parameters in 3. Media;	Jerry	2015.07.23
5	Add: Command for the device maintenance; please refer to 5.1 device maintenance in 5. maintain;	Tony	2015.07.23

6	Add: Defined audio and video network transmission procedure and interfaces;
	Add: two-way speaking procedure;
	please refer to 6.1 and 6.2 items in 6. stream;
		Jerry	2015.07.23

7	Add: Interface definition of the storage device status to get. Add: Interface definition of the storage device formatting. Please refer to 5.2 item in 5. maintains;	Jerry	2015.07.24
8	Add: Interface definition of recording parameters’ get and set; Add: Interface definition of scheduled task parameters get and set; Add: Cycle recording of Recording configuration parameters; please refer to 7. scheduled recording items	Jerry	2015.07.24
9	Bug fixed: error to definition of presec in recording configuration;	Jerry	2015.07.25
10	Modified: the date format changed from YYYY-MM-DD to YYYYMMDD, month format changed from YYYY-MM to YYYYMM; The record searching time range changed from time to beginning time and ending time like the below: begin: beginning time, unit: second; end: ending time, unit: second; please refer to 6. stream 6.3 record searching	Tony	2015.07.29
11	Mistake correction: 6.2 2-way speaking procedure: The Procedure of requesting for 2 way speaking: 1. Client: Send the request for speaking; 2. Client: the client will send the audio data to the device after around 1 second when the client received the success code "200 returned from the device for the request for speaking from the client.(The first frame of the data sent to the client is metadata. The client can start the corresponding decoder according to the value of the metadata, the data after the first frame is the audio data.) 3. Client: disconnected, the device release the resource;	Jerry	2015.07.29
12	Modified: 5.1 Device Maintenance, correct the typo from maintain to maintain." /action/set?subject=maintain"	Tony	2015.07.31
13	Modified: 6.3 Record Searching, change the time format from 2015-08 to 201508.	Jerry	2015.08.01
14	Modified: 6.3 and 6.4 command, added channel item, like " <chn> 0 <chn>"	Jerry	2015.08.13
15	Modified: 6.3, 6.4 changed the tag of "month" to "date".	Tony	2015.08.14
16	Modified: 6.3 The DD should be not 00 on searching.	Tony	2015.08.18
17	Modified: 3.5 add AAC audio codec.	Tony	2015.10.10
18	Added: 4.0 Alarm, the example how to calculate the outmask value is added in the further description.	Tony	2015.11.05
19	Added: 3.13 Get and Set ROI parameters	Tony	2015.12.03
20	Added: 5.4 Firmware upgrade	Tony	2015.12.03

21	Added: 4.5 Alarm notification, 4.6 Get and set I/O alarm parameters	TONY	2016.03.21
22	Revised: demo code: <stream/> should be </stream>	TONY	2016.03.31
23	Added: 1.6 Interfaces of acquiring the device running status	Jerry	2016.05.03
24	Updated: 1.6 Interfaces of acquiring the device running status, added: uptime, IO alarm input and IO alarm output status;	Jerry	2016.06.20
25	Updated: 4.6 Get and Set I/O alarm parameters, added: the current output level parameter	Jerry	2016.06.20
26	Added: 8.1 PTZ Control Command	Jerry	2016.06.28
27	Added: 3.14 Get and Set Audio Input and Output Volume	Tony	2016.09.01
28	Make the more detailed clarification for the 5.2 – Status value	Jian Qin	2016.09.24

29	Added: 2.10 Get and Set RTMP Parameters Definition
	Added: 2.11 Get the RTSP URL Interface Definition;
	Added: 2.12 Get the MJPEG SNAPSHOT URL Interface Definition;
	Added: 2.13 Get and Set VoIP (SIP) parameters Definition.
		Jian Qin	2016.11.11

30	Correct some mistakes, and adjusted the document format	Jerry Lin	2017.01.10
31	Added: Find the password and Configurations file Output and Input	Jerry Lin	2017.01.16
32	Updated 1.5 Interfaces of the user management description about the user’s role, user’s password encryption description;	Jerry Lin	2017.02.10
33	Updated: 2.1 and 2.2 IPV6, MTU information description.	Jerry Lin	2017.02.10
34	Added: 4.7 Trigger Alarm Event	Jian Qin	2017.02.17
35	Added: 4.8 Alarm Data Definition	Jian Qin	2017.02.17
36	Added: 6.5 Download the archives	Jian Qin	2017.02.17
37	Updated: 6.3 Record Searching: added path of the archives	Jian Qin	2017.02.17
38	Updated: 2.10 Get and Set RTMP parameters: to support mainstream and sub stream video can be pushed to the different server.	Jian Qin	2017.03.02
39	Updated 3.9: added LDC and Rotate mode;	Jerry Lin	2017/04/01

40	Added: 10 HTTP CGI for Request the LOG	Tony	2017.04.17
41	Modify 2.1: add the network cards enable or disable parameter.	Tony	2017.05.20
42	Modify: 3.9 added the item “defog” enable and disable;	Tony	2017.05.21
43	Updated the document version from V2.00.06 to V3.00.01 because of new message protocol updated.	Lin Qing	2017.06.05
44	Updated: Version number is added into all commands. If there is no special notes, the default protocol version is V1.0, otherwise there is notification: it’s suitable for V2.0 Added: DST parameters, and cancel auto DST; Updated: OSD pictures parameters, and revised the OSD coordinate from pixels to permillage unit. Added: AAC audio codec description in audio capacitor command.	Lin Qing	2017.06.05
45	Added: new alarm type – Network Disconnection; Added: Alarm processing new method – Notify the alarm server; Added: The alarm server parameters; Updated: Stream type in snapshot parameters. Added: Get and Set UPNP parameters; Added: FTP Testing Command Added: SMTP Testing Command Added: RTSP Parameters Added: IP Filter Parameters Updated: add “stream type” into VoIP parameters	Lin Qing	2017.06.12

46	Added: Status of “Motion Detection” Alarm;
	Updated: Upload data format of motion detection alarm;
	Updated: add “threshold” of motion;
	Added: Auto Reboot Command;
		Lin Qing	2017.06.19

47	Added: Get PPPoE Status	Lin Qing	2017.06.23
48	Added: Devability ONVIF Added: Devability Audio Input; Added: DevPara P2P Enable/Disable	Lin Qing	2017.06.26
49	Optimized PTZ control and command	LIN QING	2017.08.25
50	Added: Get and set NFS parameters 2.19	LIN QING	2017.08.30
51	Updated: Get the storage device information 5.2 (add NFS) ; Updated: Get and set the snapshot codec parameters 3.2 (add NFS path) Updated: Get and set the recording parameters 7.2 (add NFS path)	LIN QING	2017.09.02
52	Added: 2.20 Get and set IEEE802.1x parameters Added: 2.21 Get and set SNMP parameters	LIN QING	2017.09.11
53	Updated: 2.15 Get and Set uPNP parameters: added “active” to support enabling and disabling the service; Updated: 3.1 Video parameters: added “active” to support enabling and disabling the stream.	LIN QING	2017.09.15
54	Updated: 5.1 added parameter “2: restore all the parameters except TCP/IP parameters”; Updated: 2.1 added parameter “type” which is used to support define the network adaptor work mode;	LIN QING	2017.11.15
	Updated 3.9: added the parameter “smartir” which is used to support Smart IR enable or disable; Updated 1.2: added the parameter “smartir” which is used to get the value if the camera supports Smart IR or not.	QIN Jian	2018.03.16
56	Updated 8.1 added PTZ parameters including cruise, baud rate, protocols type etc. Updated 8.2 added cruise command.	Qin Jian	2018.03.22
57	Updated 8.2 Updated Preset data format;	Qin Jian	2018.04.08
58	Updated 8.2 added RS-485 parameters	Qin Jian	2018.04.27
59	Updated 6.5 delete the interface to get the Raw data	Qin Jian	2018.06.12

60	Updated 3.1Get and Set Video encode parameters, added: Enable or Disable Audio	QING LIN	2018.06.15
61	Updated: Limitation for MSTAR M313E and M316DM for CGI like below APIs: 2.13 GET the MJPEG Snapshot URL; 3.2 Get and Set Snapshot stream codec parameters 3.4 Get Video codec capacity parameters 3.9 Get and Set Image parameters 4.1 Get and Set Alarm Parameters	QING LIN	2018.12.06
62	Updated the device's capacity information: change onvif segment to "nvrproto" segment; Update the device system information: add nvr protocols enable and disable segment; Updated the device system information: add "telnet" enable and disable segment;	QING LIN	2018.12.06
63	Update Image parameters settings. 3.3 added g.726: codec: codec type (0: g711u 1: g711a 2:AAC 3: mp2 4: pcm 5: g726) 3.9 added: imgstyle: Display mode: 0: standard; 1: bright; 2: vivid; 3: Gentle; 4: custom 3.15 Get and Set Image Parameters Templates 4,1 added new alarm: /action/get?subject=alarm&type=0 [type: Alarm Type (0:IO alarm 1: Device Startup 2: Motion Detection 3: Video Shield 4: PIR 5: Disconnection 10: Line crossing 11: Intrusion 12: Human detection 13: Face detection 14: Object left and remove 15: Wondering)]	QING LIN	2019.04.02
64	Integrated the IVA (Intelligent Video Analytics) CGI into the document. Please refer to chapter 11.	QING LIN	2019.04.02

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Table of Contents

1 System

1.1 Get the Device Information

Description

The interface to get the device information including: device name, firmware version, hardware version, Model number, manufacture name, device’s uuid, and device’s QR code etc.

Request URL

```
/action/get?subject=devinfo
```

Request Body

None.

Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <devinfo>
        <name>HDIPCAM</name>
        <softver>V1.2</softver>
        <hardver>V1.2</hardver>
        <seqno>xxxxxxxxxxxxx</seqno>
        <uuid>xxxxxxxxxxxxx</uuid>
        <model>xxxxxxxxxxxxx</model>
        <manufacture>xxxxxxxxxxxxx</manufacture>
        <qrcode>xxxxxxxxxxxxx</qrcode>
     </devinfo>
</response>
```

Further description

name: Device Name

softver: Firmware Version

hardver:Hardware Version

uuid: Device's UUID

model:Device's Model Number

manufacture: The Manufacture

qrcode: Device's QR code

1.2 Get Device's Capacity Information

Description

The interface to get the capacity or ability information like IO alarm in/out interfaces, video in/out interfaces, audio in/out interfaces, ptz, USB interfaces, PIR, video stream and features of the functionalities like motion detection, privacy, tamper and OSD etc.

Request URL

```
/action/get?subject=devability
```

Request Body

None.

Response

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

<response>

    <devability>

        <adapter>1</adapter>

        <ioin>1</ioin>

        <ioout>1</ioout>

        <vin>1</vin>

        <vout>0</vout>

        <ain>1</ain>

        <aout>1</aout>

        <ptz>0</ptz>

        <serial>0</serial>

        <usb>0</usb>

        <disk>0</disk>
        <stream>3</stream>
        <motion>4</motion>
        <privacy>4</privacy>
        <tamper>1</tamper>
        <osd>5</osd>
        <smartva>1</smartva>
        <nvrproto>1</nvrproto>
        <aimode>2</aimode>
        <smartir>0</smartir>
    </devability>
</response>
```

Further description

adapter: Number of network adapters supported.

ioio: Number of IO input supported.

ioout: Nummer of IO output supported.

vin: Number of video input supported.

vout: Number of video ouput supported.

ain: Number of audio input supported.

aout: Number of audio output supported.

ptz: If the PTZ supported or not (0: NO, 1: YES)

serial: Number of the serial ports supported.

usb: Number of the USB devices supported.

disk: Number of the storage devices supported.

pir: If the PIR supported or not (0: No, 1: YES)

stream: Number of the video streams supported.

motion: Number of the motion detection zones supported.

privacy: Number of the privacy masking zones supported.

tamper: Number of the video shieldzones supported.

osd: Number of the OSD supported.

Smartva: If the Intelligent video analysis supported or not. (0: No, 1: YES)

nvrproto: NVR compatibility protocols supported (bit0: onvif bit1:DH, bit2: HK bit3: HB bit4:AL bit5: XM)

Aimode: Audio Input mode. (1: Auto Mode, 2: Manual Mode.)

Smarteir: if the Smart IR supported or not. (0: no, 1: YES)

Note: Whe “aimode” is manual mode, it means the device supports both Mic and Line audio input at the same time, and also support both switch manually.

1.3 Get and Set the device system information

Description

The interface to get and set the data, time and system language of the device.

Request URL

GET:

```
/action/get?subject=devpara
```

SET:

```
/action/set?subject=devpara
```

Request Body

GET:

None.

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <devpara>
        <name>HDIPCAM</name>
        <datefmt>0</datefmt>
        <timefmt>0</timefmt>
        <language>0</language>
        <p2p>0</p2p>
        <telnet>0</telnet>
        <nvrproto>1</nvrproto>
```

```
      </devpara>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <devpara>
        <name>HDIPCAM</name>
        <datefmt>0</datefmt>
        <timefmt>0</timefmt>
        <language>0</language>
        <p2p>0</p2p>
        <telnet>1</telnet>
        <nvrproto>1</nvrproto>
      </devpara>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

name: Device Name

datefmt: System Data Format(0: Year-Month-Day, 1: M-Y-D, 2: D-M-Y)

timefmt: System Time Format (0: 24 Hours, 1: 12 Hours)

langauge: System Language (Not used now)

p2p: Enable/Disable P2P feature. (0: Disable, 1: Enable)

telnet: enable/disable Telnet service. (0: Disable, 1: Enable)

nvrproto: enable the NVR/CMS compatibility protocols supported. (bit0: onvif, bit1:DH bit2:HIK bit3: HB bit4: AL bit5: XM)

1.4 Get and Set the device system time

Description

The interface to get and set the device system time.

Request URL

GET:

```
 /action/get?subject=systime
```

SET:

```
/action/set?subject=systime
```

Request Body

GET:

None.

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <systime>
        <mode>0</mode>
        <tz>CST-8</tz>
        <datetime>2015-07-08T12:15:25</datetime>
        <dst>
            <active>0</active>
            <begin>
                  <month>0</month>
                  <week>0</week>
                  <day>0</day>
                  <second>0</second>
             </begin>
            <end>
```

```
                   <month>0</month>
                   <week>0</week>
                   <day>0</day>
                   <second>3600</second>
              </end>
        </dst>
        <ntp>
            <host>ntp.server</host>
            <port>123</port>
            <interval>1</interval>
        </ntp>
     </systime>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <systime>
        <mode>0</mode>
        <tz>CST-8</tz>
        <datetime>2015-07-08T12:15:25</datetime>
        <dst>
            <active>0</active>
            <begin>
                <month>0</month>
                <week>0</week>
                <day>0</day>
                <second>0</second>
            </begin>
            <end>
                <month>0</month>
                <week>0</week>
                <day>0</day>
                <second>3600</second>
            </end>
        </dst>
        <ntp>
            <host>ntp.server</host>
            <port>123</port>
            <interval>1</interval>
        </ntp>
    </systime>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

mode: The Time Set Mode (0: Timing Manual, 1: NTP)

tz: Time Zone

datetime: Current System Time (Format is YYYY-MM-DD Thh:mm:ss)

dst.active: DST(Daylight saving time) or not (0: NO, 1: YES)

ntp.host: NTP Server Address

ntp.port: NTP Server Ports

ntp.interval:NTP Timing Interval, Unite: Hour, Valid value [1, 5]

dst.active: If enable Auto DST or not. (0: Disable, 1: Enable)

dst.begin.month: the start month of DST, the valid value range is [0,11] (from Jan to Dec.)

dst.begin.week: the start week of DST, the valid value range is [0,4] (0, the first week, 4, the last week)

dst.begin.day: the start day of DST, the valid value range is [0,6] (Monday to Sunday)

dst.begin.second: the start second of DST, the unit is second.

dst.end: the end of DST. Please refer to “dst.begin” for the parameters definition.

below is the standard time zone for the reference.

```
<OPTION VALUE="<GMT+14>+14" name="x_timezoneOpt1"></OPTION>
```

```
<OPTION VALUE="<GMT+13>+13" name="x_timezoneOpt2"></OPTION>

<OPTION VALUE="<GMT+12>+12" name="x_timezoneOpt3"></OPTION>

<OPTION VALUE="SST11" name="x_timezoneOpt4"></OPTION>

<OPTION VALUE="HAST10HADT,M3.2.0,M11.1.0" name="x_timezoneOpt5"></OPTION>

<OPTION VALUE="AKST9AKDT,M3.2.0,M11.1.0" name="x_timezoneOpt6"></OPTION>

<OPTION VALUE="PST8PDT,M3.2.0,M11.1.0" name="x_timezoneOpt7"></OPTION>

<OPTION VALUE="MST7MDT,M3.2.0,M11.1.0" name="x_timezoneOpt8"></OPTION>

<OPTION VALUE="CST6CDT,M3.2.0,M11.1.0" name="x_timezoneOpt9"></OPTION>

<OPTION VALUE="CST6CDT,M4.1.0,M10.5.0" name="x_timezoneOpt10"></OPTION>

<OPTION VALUE="CST5CDT,M3.2.0/0,M11.1.0/1" name="x_timezoneOpt11"></OPTION>

<OPTION VALUE="EST5EDT,M3.2.0,M11.1.0" name="x_timezoneOpt12"></OPTION>

<OPTION VALUE="VET4:30" name="x_timezoneOpt13"></OPTION>

<OPTION VALUE="PYT4PYST,M10.3.0/0,M3.2.0/0" name="x_timezoneOpt14"></OPTION>

<OPTION VALUE="CLT4CLST,M10.2.0/0,M3.2.0/0" name="x_timezoneOpt15"></OPTION>

<OPTION VALUE="AST4ADT,M3.2.0,M11.1.0" name="x_timezoneOpt16"></OPTION>

<OPTION VALUE="NST3:30NDT,M3.2.0/0:01,M11.1.0/0:01" name="x_timezoneOpt17"></OPTION>

<OPTION VALUE="BRT3BRST,M10.3.0/0,M2.3.0/0" name="x_timezoneOpt18"></OPTION>

<OPTION VALUE="FNT2" name="x_timezoneOpt19"></OPTION>

<OPTION VALUE="AZOT1AZOST,M3.5.0/0,M10.5.0/1" name="x_timezoneOpt20"></OPTION>

<OPTION VALUE="GMT0BST,M3.5.0/1,M10.5.0" name="x_timezoneOpt21"></OPTION>

<OPTION VALUE="CET-1CEST,M3.5.0,M10.5.0/3" name="x_timezoneOpt22"></OPTION>

<OPTION VALUE="EET-2EEST,M3.5.0/3,M10.5.0/4" name="x_timezoneOpt23"></OPTION>

<OPTION VALUE="EET-2EEST,M4.4.5/0,M8.4.5/2" name="x_timezoneOpt24"></OPTION>

<OPTION VALUE="IST-2IDT,M3.5.5/2,M9.3.0/2" name="x_timezoneOpt25"></OPTION>

<OPTION VALUE="SAST-2" name="x_timezoneOpt26"></OPTION>

<OPTION VALUE="EET-2EEST,M3.5.0/0,M10.5.0/0" name="x_timezoneOpt27"></OPTION>

<OPTION VALUE="EET-2EEST,M4.1.5/0,J305/0" name="x_timezoneOpt28"></OPTION>

<OPTION VALUE="MSK-3MSD,M3.5.0,M10.5.0/3" name="x_timezoneOpt29"></OPTION>

<OPTION VALUE="AST-3ADT,J91/3,J274/4" name="x_timezoneOpt30"></OPTION>

<OPTION   VALUE="IRST-3:30IRDT-4:30,80/0,264/0"  name="x_timezoneOpt31"></OPTION>

<OPTION  VALUE="AZT-4AZST,M3.5.0/4,M10.5.0/5" name="x_timezoneOpt32"></OPTION>

<OPTION VALUE="AFT-4:30" name="x_timezoneOpt33"></OPTION>

<OPTION VALUE="PKT-5" name="x_timezoneOpt34"></OPTION>
```

```
<OPTION VALUE="IST-5:30" name="x_timezoneOpt35"></OPTION>
<OPTION VALUE="NPT-5:45" name="x_timezoneOpt36"></OPTION>
<OPTION VALUE="OMST-6OMSST,M3.5.0,M10.5.0/3" name="x_timezoneOpt37"></OPTION>
<OPTION VALUE="MMT-6:30" name="x_timezoneOpt38"></OPTION>
<OPTION VALUE="WIT-7" name="x_timezoneOpt39"></OPTION>
<OPTION VALUE="CST-8" SELECTED name="x_timezoneOpt40"></OPTION>
<OPTION VALUE="WST-8WDT,M10.5.0/2/3,M3.5.0/3" name="x_timezoneOpt41"></OPTION>
<OPTION VALUE="JST-9" name="x_timezoneOpt42"></OPTION>
<OPTION VALUE="CST-9:30" name="x_timezoneOpt43"></OPTION>
<OPTION VALUE="CST-9:30CST,M10.1.0,M4.1.0/3" name="x_timezoneOpt44"></OPTION>
<OPTION VALUE="EST-10EST,M10.1.0,M4.1.0/3" name="x_timezoneOpt45"></OPTION>
<OPTION VALUE="SBT-11" name="x_timezoneOpt46"></OPTION>
<OPTION VALUE="NFT-11:30" name="x_timezoneOpt47"></OPTION>
<OPTION VALUE="NZST-12NZDT,M9.5.0,M4.1.0/3" name="x_timezoneOpt48"></OPTION>
<OPTION VALUE="FJT-12" name="x_timezoneOpt49"></OPTION>
<OPTION VALUE="PETT-12PETST,M3.5.0,M10.5.0/3" name="x_timezoneOpt50"></OPTION>
<OPTION VALUE="MHT-12" name="x_timezoneOpt51"></OPTION>
<OPTION VALUE="CHAST-12:45CHADT,M9.5.0/2:45,M4.1.0/2:45" name="x_timezoneOpt52"></OPTION>
<OPTION  VALUE="TOT-13" name="x_timezoneOpt53"></OPTION>
```

1.5 Interfaces of the User Management

Description

The interfaces is for the user management including getting the user information, user adding, deleting and modification etc.

Request URL

Get the user information:

```
/action/get?subject=user
```

User adding:

```
/action/set?subject=user&do=add
```

User deleting:

```
/action/set?subject=user&do=del
```

User modification:

```
/action/set?subject=user&do=modify
```

■ Request Body

Get the user information: None

User adding:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <user>
        <name>tester</name>
        <password>12345</password>
        <group>0</group>
        <permit>
            <config>255</config>
            <operation>255</operation>
        </permit>
     </user>
</request>
```

User deleting:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <user>
        <name>tester</name>
     </user>
</request>
```

User modification:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
   <user>
      <name>tester</name>
      <password>54321</password>
      <group>0</group>
      <permit>
         <config>255</config>
         <operation>255</operation>
      </permit>
    </user>
</request>
```

Response

Get the user information:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
   <user>
      <name>admin</name>
      <password>12345</password>
      <group>0</group>
      <permit>
         <config>255</config>
         <operation>255</operation>
      </permit>
    </user>
     ...
     <user>
      <name>test1</name>
      <password>12345</password>
      <group>0</group>
      <permit>
         <config>255</config>
```

```
            <operation>255</operation>
        </permit>
     </user>
</response>
```

User adding:

User deleting:

User modification:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

name: user name

password: user's password, here please use base64 encrypted password.

group: user group ((0: administrator 1:Operator 2: Viewer)

perimt.config: permission configuration, each bit means each permission for camera configuration;

perimt.operation: permission operation, each bit means each permission for camera operating;

NOTE:

1. All of the existed user information will be returned, and the password returned is NULL.
2. The current right information is valid, please use the user group to assign the user's permission right. The right definition of the three type users: Administrator, Operator and Viewer is like the blow:

   Administrator's Right:

   Parameters Settings including: System Parameters, Network Parameters, Audio and Video Parameters, Alarm and Event Parameters, Recording Parameters, User Management, Intelligent Video Analytics Parameters, Video Preview, Playback, Two-way speaking, SD Operation, PTZ control, Firmware Upgrade, Reboot and Restore etc.

   Operator's Right:

   Parameters Settings including: System Parameters, Network Parameters, Audio and Video Parameters, Alarm and Event Parameters, Recording Parameters, Intelligent Video Analytics Parameters, Video Preview, Playback, Two-way speaking, SD Operation, PTZ control, Reboot and Restore etc.

   Without: User Management and Firmware Upgrade

Viewer Right:

ONLY get the following parameters: System Information, Network Parameters, Audio and Video Parameters, Alarm and Event Parameters, Recording Parameters, Intelligent Video Analytics Parameters, Video Preview;

3. **The password should be encrypted using BASE-64 when the user is added or modified.**

1.6 Interfaces of acquiring the device running status

■ Description

The interfaces is for the user to acquiring the device running status and server status etc.

■ Request URL

```
/action/get?subject=sysstatus
```

■ Request Body

None

■ Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <systemstat>
        <cpu>80</cpu>
        <uptime>80</uptime>
        <video>1</video>
        <audio>1</audio>
        <onvif>1</onvif>
        <voip>1</voip>
        <rtmp>1</rtmp>
        <rtsp>1</rtsp>
        <upnp>1</upnp>
        <ftp>1</ftp>
        <record>1</record>
        <snap>1</snap>
        <tcp>1</tcp>
        <ddns>1</ddns>
        <ioin>1</ioin>
        <ioout>1</ioout>
    </systemstat>
</response>
```

Further description

cpu: cpu loading percentage , value: [0, 100]

uptime: the running time from the camera started, value: seconds

video: video service status: 1: running 0: stop

audio: audio service status: 1: running 0: stop

onvif: onvif service status: 1: running 0: stop

voip: voip service status: 1: running 0: stop

ftp: ftp service status: 1: running 0: stop

rtmp: rtmp service status: 1: running 0: stop

upnp: upnp service status: 1: running 0: stop

rtsp: rtsp service status: 1: running 0: stop

record: recording service status: 1: running 0: stop

snap: snapshot service status: 1: running 0: stop

tcp: tcp service status: 1: running 0: stop

ddns: ddns service status: 1: running 0: stop

ioin: the current IO alarm input status, each bit represents each IO, maximum support 32 IO, 1: high level 0: low level

ioout: the current IO alarm output status, each bit represents each IO, maximum support 32 IO, 1: high level 0: low level

1.7 Interfaces of acquiring and setiing IP filter parameters

Description

The interfaces is for the user to acquire and set the IP address filter list in the camera.

Request URL

Get:

```
/action/get?subject=ipfilter
```

Set:

```
/action/set?subject=ipfilter
```

Request Body

GET:

None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <ipfilter>
        <active>0</active>
        <filter>0</filter>
        <iprule>
            <name>12312</name>
            <start>192.168.1.35</start>
            <end>192.168.1.155</end>
         </iprule>
         <iprule>
            <name>12312</name>
            <start>192.168.1.35</start>
            <end>192.168.1.155</end>
         </iprule>
         ...
     </ipfilter>
</request>
```

Response

GET

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

```
<response>
   <ipfilter>
      <active>0</active>
      <filter>0</filter>
      <iprule>
         <name>12312</name>
         <start>192.168.1.35</start>
         <end>192.168.1.155</end>
       </iprule>
       <iprule>
         <name>12312</name>
         <start>192.168.1.35</start>
         <end>192.168.1.155</end>
       </iprule>
       ...
    </ipfilter>
</response>
```

Set:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

■ Further description

active: If enable IP filter list or not.

Filter: IP address filter type: 0: White list, 1: Black list.

iprule.name: the name of filter

iprule.start: the start IP address which should be filtered.

iprule.end: the end IP address which should be filtered.

Note:

1. Max. 4 filters can be supported.
2. The starting and ending IP address should be the same IP segment.

2 Network

2.1 Get and Set the Network Parameters

■ **Description**

The interface to get and set the device’s network parameters like the network adaptor’s name, Mac address, IP protocols, IP address, gateway address and DNS etc.

Request URL

GET:

```
/action/get?subject=network&adapter=0 [adapter: Network Adapter's ID number (0: local, 1: wifi)]
```

SET:

```
/action/set?subject=network&adapter=0
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <network>
        <network>
        <name>eth0</name>
        <mac>d0:22:12:88:88:88</mac>
        <proto>1</proto>
        <index>0</index>
        <active>1</active>
        <mtu>64</mtu>
        <type>0</type>
        <ipv4>
            <mode>0</mode>
            <ip>192.168.1.120</ip>
            <mask>255.255.255.0</mask>
            <gateway>192.168.1.1</gateway>
            <dns>8.8.8.8</dns>
            <dns>192.168.1.1</dns>
        </ipv4>
        <ipv6>
            <mode>0</mode>
            <ip>2001:da8:2004:1000:202:116:160:41</ip>
            <prefixlen>64</prefixlen>
            <gateway>2001:da8:2004:1000::1</gateway>
            <dns>2001:da8:2004:1000::1</dns>
            <dns>2001:da8:2004:1000::2</dns>
        </ipv6>
    </network>
    </network>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <network>
        <name>eth0</name>
        <mac>d0:22:12:88:88:88</mac>
        <proto>1</proto>
        <index>0</index>
        <active>1</active>
        <mtu>64</mtu>
        <type>0</type>
        <ipv4>
            <mode>0</mode>
            <ip>192.168.1.120</ip>
            <mask>255.255.255.0</mask>
            <gateway>192.168.1.1</gateway>
            <dns>8.8.8.8</dns>
            <dns>192.168.1.1</dns>
        </ipv4>
        <ipv6>
            <mode>0</mode>
```

```
                <ip>2001:da8:2004:1000:202:116:160:41</ip>

                <prefixlen>64</prefixlen>

                <gateway>2001:da8:2004:1000::1</gateway>

                <dns>2001:da8:2004:1000::1</dns>

                <dns>2001:da8:2004:1000::2</dns>

          </ipv6>

     </network>

</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

name: Network Adapter's Name (Read Only)

mac: Mac Address (Read Only)

index: Index number of the network cards (Read only);

active: Enable or Disable network cards; 0: disable, 1: enable;

proto: Network Protocol (bit0: IPV4, bit1:IPV6)

mtu: MTU Value, the value range [500, 1500];

type: Network adapter’s work mode: 0: adaptive 1: 10M HALF, 2: 10M FULL 3: 100M HALF 4: 100M FULL;

ipv4.mode:IP Address Setting Mode(0: Static, 1: DHCP)

ipv4.ip: IP Address.

ipv4.mask: IP V4 Subnetwork mask address

ipv4.gateway: Gateway address

ipv4.dns: Primary DNS address

ipv4.dns: Secondary DNS address

ipv6.mode:IP Address Setting Mode(0: Static, 1: DHCP)

ipv6.ip: IP Address.

Ipv6.prefixlen: IPV6 mask value

Ipv6.gateway: Gateway address

Ipv6.dns: Primary DNS address

Ipv6.dns: Secondary DNS address

NOTE:

1. The name of the network adaptor and MAC address are fixed, and cannot be set.

2. The adapter should be the same as the physical index of the network adapter, and it should be greater than or equal to 0;

3. Now the address of IPV6 is supported as Global type address;

4. The local wired network is always enabled, and WiFi network can be configured enable or disable;

2.2 Get Network Link Status

Description

The interface to get the network link status like to check whether the device is connected or not, MTU value, WiFi Parameters like WiFi SSID, Authentication method, WiFi Encryption Method and the Wireless signal strength status etc.

Request URL

```
/action/get?subject=netstat&adapter=0      [adapter: Network Adapter's ID number (0: local, 1: wifi)]
```

Request Body

None

Response

```
<response>
    <netstat>
        <link>1</link>
        <network>
            <mtu>1500</mtu>
            <name>eth0</name>
            <mac>d0:22:12:88:88:88</mac>
            <proto>1</proto>
            <ipv4>
        <mode>0</mode>
        <ip>192.168.1.120</ip>
        <mask>255.255.255.0</mask>
        <gateway>192.168.1.1</gateway>
        <dns>8.8.8.8</dns>
        <dns>192.168.1.1</dns>
      </ipv4>
       <ipv6>
        <mode>0</mode>
        <ip>2001:da8:2004:1000:202:116:160:41</ip>
        <prefixlen>64</prefixlen>
        <gateway>2001:da8:2004:1000::1</gateway>
        <dns>2001:da8:2004:1000::1</dns>
        <dns>2001:da8:2004:1000::2</dns>
       </ipv6>
    </network>
    <wifiap>
        <essid>WIFI-AP</essid>
        <auth>3</auth>
        <alg>3</alg>
        <signal>-41</signal>
    </wifiap>
</netstat>
</response>
```

■ Further description

link: Link status（0: Not Connected, 1:Connected)

mtu: MTU value

network: Prefer to the Network parameters definition.

wifiap.essid: AP’s ESSID of the current WIFI connected.

wifiap.auth: AP’s Password Authentication Method(0: NONE, 1:WEP 2:WPA 3:WPA2 ）

wifiap.alg: AP’s Password Encryption Method(0:OPEN 1:SHARED 2:TKIP 3:AES）

wifiap.signal: AP’s Signal Strength Status

NOTE:

The “wifiap” of the answered package can be valid only on adapter=1 when getting WIFI network status.

2.3 Get and Set Network Port Parameters

Description

The interface to get and set the network port parameters including HTTP port, RTSP port and Private TCP port.

Request URL

GET:

```
/action/get?subject=netserv
```

SET:

```
/action/set?subject=netserv
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <netserv>
        <http>80</http>
        <rtsp>554</rtsp>
        <tcp>6000</tcp>
    </netserv>
</request>
```

Response

GET:

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

```
<response>
      <netserv>
            <http>80</http>
            <rtsp>554</rtsp>
            <tcp>6000</tcp>
      </netserv>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

http: http port

rtsp: rtsp port

tcp: private tcp port

2.4 Get and Set SMTP Parameters

Description

The interface to get and set the SMTP parameters like the SMTP host server address, SMTP host server port number, the user name, password, SSL encryption status, the sender name and the receptor’s mail address.

Request URL

GET:

```
/action/get?subject=smtp
```

SET:

```
/action/set?subject=smtp
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <smtp>
        <host/>
        <port>25</port>
        <username/>
        <password/>
        <ssl>0</ssl>
        <sender/>
        <recipient/>
        <recipient/>
        <recipient/>
        <recipient/>
    </smtp>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <smtp>
        <host>smtp.126.com<host/>
        <port>25</port>
        <username>test@126.com</username>
        <password>123456</password>
        <ssl>0</ssl>
        <sender>Tester</sender>
        <recipient>test1@163.com</recipient>
        <recipient>test2@163.com</recipient>
```

```
            <recipient>test3@163.com</recipient>
            <recipient>test4@163.com</recipient>
      </smtp>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

■ Further description

host: smtp host server address

port: smtp host server port number

username: username

password: password

ssl: enable ssl encryption （0: Disable 1: Enable）

sender: sender name

recipient: the receptor’s mail address, the maximum number of the address is 4.

2.5 Get and Set DDNS Parameters

■ Description

The interface to get and set the DDNS parameters like whether to enable DDNS or not, the DDNS type, the domain name, the domain user name, the password and the DDNS updating interval time etc.

■ Request URL

GET:

```
/action/get?subject=ddns
```

SET:

```
/action/set?subject=ddns
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <ddns>
        <active>1<active/>
        <type>25</type>
        <domain>www.ipcam.com</domain>
        <username>test@126.com</username>
        <password>123456<password/>
        <interval>0</interval>
    </ddns>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <ddns>
        <active>1<active/>
        <type>25</type>
        <domain>www.ipcam.com</domain>
        <username>test@126.com</username>
        <password>123456</password>
        <interval>0</interval>
    </ddns>
</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

active: Enable DDNS or not（0: Disable 1:Enbale）

type: DDNS Service Type（0:3322   1:oray）

domain: Porting Domain Name

username: Domain User name

password: Domain password

interval: Updating interval, valid range [1, 600], unite: second

2.6 Get and Set PPPoE Parameters

Description

The interface to get and set the PPPoE parameters like whether to enable PPPoE or not, the PPPoE user name, the password etc.

Request URL

GET:

```
/action/get?subject=pppoe
```

SET:

```
/action/set?subject=pppoe
```

Request Body

GET: None

SET:

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

<request>
```

```
        <pppoe>
                <active>1<active/>
                <username>test@126.com</username>
                <password>123456<password/>
        </pppoe>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
        <pppoe>
                <active>1<active/>
                <username>test@126.com</username>
                <password>123456</password>
        </pppoe>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

active: Enable PPPoE or not（0: Disable, 1: Enable）

username: The user name

password: The password

2.7 Get PPPoE working status

Description

The interface to get the PPoE connection status.

Request URL

```
/action/get?subject=pppoestat
```

Request Body

Non.

Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <pppoestat>
        <link>1</link>
        <addr>192.168.1.1</addr>
        <mask>192.168.1.1</mask>
        <gateway>192.168.1.1</gateway>
    </pppoestat>
</response>
```

Further description

Link: Link status. 0: not connected; 1: connected;

Addr: working IP address.

Mask: working network mask;

Gateway: working network gateway.

2.8 Get and Set FTP Parameters

Description

The interface to get and set the FTP parameters like the FTP server address, FTP server port, FTP user name and the password, whether to enable Anonymous login or not, whether to enable resume the broken transfer or not and the FTP Server remote path etc.

Request URL

GET:

```
/action/get?subject=ftp
```

SET:

```
/action/set?subject=ftp
```

■ Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <ftp>
        <host>ftp.server</host>
        <port>25</port>
        <anonymous>0</anonymous>
        <username>test@126.com</username>
        <password>123456</password>
        <resume>1</resume>
        <rpath>/ipcam_root</rpath>
    </ftp>
</request>
```

■ Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <ftp>
        <host>ftp.server</host>
        <port>25</port>
        <anonymous>0</anonymous>
        <username>test@126.com</username>
        <password>123456</password>
        <resume>1</resume>
        <rpath>/ipcam_root</rpath>
    </ftp>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

host:ftp servers address

port:ftp server port

username: ftp username

password: ftp password

anonymous: Enable Anonymous login or not（ 0:Disable 1:Enable ）

resume: Enable Resume broken transfer or not（ 0: Disable 1:Enable ）

rpath:ftp server remote path

2.9 Get and Set WIFI Connection Parameters

Description

The interface to get and set the WiFi connection parameters like the WiFi AP SSID, the authentication method, encryption method and the WiFi AP's password etc.

Request URL

GET:

```
/action/get?subject=wifi
```

SET:

```
/action/set?subject=wifi
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <wifi>
        <essid>IPC-AP</essid>
        <auth>3</auth>
        <alg>3</alg>
        <password>123456789</password>
    </wifi>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <wifi>
        <essid>IPC-AP</essid>
        <auth>3</auth>
        <alg>3</alg>
        <password>123456789</password>
    </wifi>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
```

```
500: Failed to Set.
```

Further description

essid: AP ESSID Connected

auth: AP Connected Password Authentication Method(0:NONE 1:WEP 2:WPA 3:WPA2)

alg: AP connected Password Encryption Method(0:OPEN 1:SHARED 2:TKIP 3:AES)

password: WIFI AP's Password

2.10 WIFI Scanning

Description

The interface to make the camera to scan the WiFi signal, and show the scanned result like the scanned WiFi SSID, the authentication method, encryption method and the wireless signal strength status etc.

Request URL

```
/action/get?subject=wifiscan
```

Request Body

None

Response

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

<response>

    <wifiap>

      <essid>WIFI-AP</essid>

      <auth>3</auth>

      <alg>3</alg>

      <signal>-41</signal>

    </wifiap>

   <wifiap>

      <essid>TPLINK</essid>

      <auth>3</auth>

      <alg>3</alg>
```

```
        <signal>-41</signal>
      </wifiap>
</response>
```

■ **Further description**

wifi Scanning Result, there will be multiple WIFI AP if multiple Aps are scanned.

essid: AP ESSID

auth: AP's password authentication method (0: NONE 1: WEP 2: WPA 3: WPA2)

alg: AP's password encryption method（0: OPEN 1:SHARED 2: TKIP 3: AES）

signal: AP connected signal strength status

2.11 Get and Set RTMP Video Parameters

■ **Description**

The interface to get and set the RTMP video parameters including the related stream type pushed using RTMP and the schedule of pushing.

■ **Request URL**

GET:

```
/action/get?subject=rtmp
```

SET:

```
/action/set?subject=rtmp
```

■ **Request Body**

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
      <rtmp>
            <port>1935<port/>
```

```
        <push>
            <active>1<active/>
            <url>rtmp://server:port/live/cam0</url>
            <url>rtmp://server:port/live/cam1</url>
            <tsection>0-1200</tsection>
            <tsection>1200-3600</tsection>
            <tsection>3600-7200</tsection>
            <tsection>36000-86400</tsection>
        </push>
    </rtmp>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <rtmp>
        <port>1935<port/>
        <push>
            <active>1<active/>
            <url>rtmp://server:port/live/cam0</url>
            <url>rtmp://server:port/live/cam1</url>
            <tsection>0-1200</tsection>
            <tsection>1200-3600</tsection>
            <tsection>3600-7200</tsection>
            <tsection>36000-86400</tsection>
        </push>
    </rtmp>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
```

```
403: No authorized.

500: Failed to Set.
```

Further description

Port: RTMP service port

push.active: Enable or Disable RTMP push service: 0: Disable, 1: Enable

push.url: the URL address which the video (mainstream and substream) are pushed to.

push.tsection: The schedule of the stream pushing: the time format is: starting time – ending time

Note:

1. The service port is fixed 1935 now, it cannot be changed.
2. Push.url: the maximum channels supported are 2 channels (mainstream, substream as sequence)
3. There is maximum 4 time segments for the pushing schedule supported. The value is the second of the current time, for example, 16:00:00 should be using 57600 (16*3600 second)

2.12 GET the RTSP video URL

Description

The interface to get the RTSP video url address for the RTSP video player to play network video.

Request URL

```
/action/get?subject=rtspurl&stream=0
```

Request Body

Stream: 0: mainstream   1: substream

Response

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

<response>

      <refer>

            <url>rtsp://192.168.1.120:554/live/main<url/>

            <expire>0<expire/>
```

```
        </refer>
</response>
```

Further description

url: the RTSP video request address

expire: the effective time of address, the unit is second.

Note:

Expire: when it’s 0, it means the RTSP address is never expired.

2.13 GET the MJPEG Snapshot URL

Description

The interface to get the address of the snapshot using MJEPG.

Request URL

```
/action/get?subject=snapurl
```

Request Body

None.

Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
        <refer>
                <url>http://192.168.1.120:80/action/snap<url/>
                <expire>0<expire/>
        </refer>
</response>
```

Further description

url: the HTTP snapshot request address.

expire: the effective time of address, the unit is second.

Note:

Expire: when it’s 0, it means the RTSP address is never expired.

MSTAR MSC313E 2.0MP cameras did not support this API.

2.14 Get and Set VoIP (SIP) Parameters

Description

The interface to get and set the VoIP (SIP) parameters including VoIP server address, port number, local service port, VoIP call ID number, the username and password etc..

Request URL

GET:

```
/action/get?subject=voip
```

SET:

```
/action/set?subject=voip
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <voip>
        <active>1<active/>
        <auth>1<auth/>
        <servhost>voip.host<servhost/>
        <servport>5060</servport>
        <lport>5060</lport>
        <callid>876543210</callid>
        <username>user</username>
        <password>passwd</password>

        <calltime>600</calltime>

        <expire>3600</expire>

    </voip>

</request>
```

Response

GET:

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

<response>

    <voip>

        <active>1<active/>

        <auth>1<auth/>

        <servhost>voip.host<servhost/>

        <servport>5060</servport>

        <lport>5060</lport>

        <callid>876543210</callid>

        <username>user</username>

        <password>passwd</password>

        <calltime>600</calltime>

        <expire>3600</expire>

    </voip>

</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

active: Disable or Enable VoIP (SIP) service, 0: Disable, 1:Enable

auth: Disable or Enable the security Authentication, 0: Disable, 1:Enable servhost: VoIP (SIP) register server address

servport: VoIP (SIP) register server port

lport: local VoIP service monitoring port

callid: the ID number called.

Username: the registered user name of the callid

Password: the registered password of the callid;

Calltime: the maximum called time, the unit is second;

Expire: the maximum service effective time, the unit is second.

Note:

1. The camera will re-register the service for the VoIP server again when the current service (call) is expired

2.15 Get and Set UPnP Parameters

Description

The interface to get and set the UPnP parameters.

Request URL

GET:

```
/action/get?subject=upnp
```

SET:

```
/action/set?subject=upnp
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
        <upnp>
            <active>1</active>
            <fname>123123</fname>
            <pmap>
                <active>1</active>
                <protocol>0</protocol>
                <interport>80</interport>
                <exterport>80</exterport>
                <status>1</status>
            </pmap>
            <pmap>
                <active>1</active>
                <protocol>0</protocol>
                <interport>801</interport>
                <exterport>801</exterport>
                <status>1</status>
            </pmap>
            ....
      </upnp>
</request>
```

Response

GET:

```
 <?xml version="1.0" encoding="utf-8"?>
<response>
      <upnp>
            <active>1</active>
            <fname>123123</fname>
            <pmap>
                <active>1</active>
                <protocol>0</protocol>
                <interport>80</interport>
                <exterport>80</exterport>
                <status>1</status>
            </pmap>
            <pmap>
                <active>1</active>

                <protocol>0</protocol>

                <interport>801</interport>

                <exterport>801</exterport>

                <status>1</status>

            </pmap>

            ....

      </upnp>

</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

Active: Enable/disable the UPNP service: 0: Disable, 1: Enable

fname: the device name discovered by UPnP;

pmap.active: Enable/disable port mapping: 0: Disable, 1: Enable.

pmap.protocol: Protocol type of port mapping: 0: TCP, 1: UDP

pmap.interport: Internal port of port mapping;

pmap.exterport: External port of port mapping;

pmap.status: Status of port mapping, it's only read, 0: port mapping failed. 1: port mapping successfully.

Note:

1. Max. 4 items port mapping are supported.
2. Pmap.status is the parameter which is read only.

2.16 FTP Testing

Description

The interface to execute FTP connection testing. The user can use the interface to test if the FTP server parameters and FTP connection are ok ornot.

Request URL

```
/action/get?subject=ftp
```

Request Body

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

<request>

    <ftp>

        <host>ftp.server</host>

        <port>25</port>

        <anonymous>0</anonymous>

        <username>test@126.com</username>

        <password>123456</password>

        <resume>1</resume>

        <rpath>/ipcam_root</rpath>

    </ftp>

</request>
```

Response

```
200: Test successfully.

400: Error to Request.

403: No authorized.

500: Test failed.
```

Further description

2.17 SMTP Testing

Description

The interface to execute SMTP connection testing. The user can use the interface to test if the SMTP server parameters and the connection are ok ornot.

Request URL

```
/action/get?subject=smtp
```

Request Body

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <smtp>
        <host>smtp.126.com<host/>
        <port>25</port>
        <username>test@126.com</username>
        <password>123456</password>
        <ssl>0</ssl>
        <sender>Tester</sender>
        <recipient>test1@163.com</recipient>
        <recipient>test2@163.com</recipient>
        <recipient>test3@163.com</recipient>
        <recipient>test4@163.com</recipient>
    </smtp>
</request>
```

Response

```
200: Test successfully.
400: Error to Request.
403: No authorized.
500: Test failed.
```

Further description

2.18 Get and Set RTSP Parameters

Description

The interface to get and set the RTSP parameters.

Request URL

GET:

```
/action/get?subject=rtsp
```

SET:

```
/action/set?subject=rtsp
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
      <rtsp>
          <auth>1<auth/>
          <mcast>
              <active>1<active>
              <port>1000</port>
              <addr>224.0.0.1</addr>
              <ttl>64</ttl>
          </mcast>
     </rtsp>
</request>
```

Response

GET:

```
  <?xml version="1.0" encoding="utf-8"?>
<response>
     <rtsp>
          <auth>1<auth/>
          <mcast>
```

```
                <active>1<active>
                <port>1000</port>
                <addr>224.0.0.1</addr>
                <ttl>64</ttl>
            </mcast>
        </rtsp>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

auth: enable/disable RTSP authentication, 0: disable, 1: enable;

mcast.active: enable/disable RTSP multicasting, 0: Disable, 1: Enable.

mcast.port: multicasting port.

mcast.addr: multicasting address.

mcast.ttl: multicasting TTL value, the effective value is [64, 255].

2.19 Get and Set NFS Parameters

Description

The interface to get and set the NFS parameters.

Request URL

GET:

```
/action/get?subject=nfs
```

SET:

```
/action/set?subject=nfs
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
     <nfs>
        <active>1<active/>
        <host>192.168.1.25<host>
        <path>/mnt/nfs</path>
    </nfs>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
     <nfs>
        <active>1<active/>
        <host>192.168.1.25<host>
        <path>/mnt/nfs</path>
    </nfs>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

auth: enable/disable NFS service, 0: disable, 1: enable;

nfs.host: NFS server address, it should be IP address.

nfs.path.: NFS server's mounted path, it should not be empty.

2.20 Get and Set IEEE802.1x Parameters

Description

The interface to get and set the IEEE802.1x parameters.

Request URL

GET:

```
/action/get?subject=ieee8021x
```

SET:

```
/action/set?subject=ieee8021x
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <ieee8021x>
        <active>1<active/>
        <identity>123123<identity>
        <password>123123s</password>
        <eapver>0s</eapver>
        <eaptype>0s</eaptype>
    </ieee8021x>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <ieee8021x>
        <active>1<active/>
        <identity>123123<identity>
        <password>123123s</password>
        <eapver>0s</eapver>
        <eaptype>0s</eaptype>
    </ieee8021x>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

active: enable/disable IEEE802.1x service, 0: disable, 1: enable;

identity: user name.

password: password.

Eaptype: EAP encryption method: 0: MD5 1: TLS

Eapver: EAP version 0: version 1 1: version 2;

2.21 Get and Set SNMP Parameters

Description

The interface to get and set the SNMP parameters.

Request URL

GET:

```
/action/get?subject=snmp
```

SET:

```
/action/set?subject=snmp
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <snmp>
        <v1active>1<v1active/>
        <v2active>1<v2active/>
        <servport>161<servport/>
        <rcommunity>public<rcommunity/>
        <wcommunity>private<wcommunity/>
        <trapip>192.168.1.25<trapip/>
        <trapport>161<trapport/>
        <tcommunity>public<tcommunity/>
        <v3active>1<v3active/>
        <rouser>
            <name>rouser<name/>
            <securty>1<securty/>
            <authtype>1<authtype/>
            <algtype>1<algtype/>
            <authpwd>1234<authpwd/>
            <algpwd>1234<algpwd/>
        </rouser>
        <rwuser>
            <name>rwuser<name/>
            <securty>1<securty/>
            <authtype>1<authtype/>
            <algtype>1<algtype/>
            <authpwd>1234<authpwd/>
            <algpwd>1234<algpwd/>
        </rwuser>
    </snmp>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <snmp>
        <v1active>1<v1active/>
        <v2active>1<v2active/>
        <servport>161<servport/>
        <rcommunity>public<rcommunity/>
        <wcommunity>private<wcommunity/>
        <trapip>192.168.1.25<trapip/>
        <trapport>161<trapport/>
        <tcommunity>public<tcommunity/>
        <v3active>1<v3active/>
        <rouser>
            <name>rouser<name/>
            <securty>1<securty/>
            <authtype>1<authtype/>
            <algtype>1<algtype/>
            <authpwd>1234<authpwd/>
            <algpwd>1234<algpwd/>
        </rouser>
        <rwuser>
            <name>rwuser<name/>
            <securty>1<securty/>
            <authtype>1<authtype/>
            <algtype>1<algtype/>
            <authpwd>1234<authpwd/>
            <algpwd>1234<algpwd/>
```

```
          </rwuser>
      </snmp>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

v1active: enable/disable SNMPv1 service, 0: disable, 1: enable;

v2active: enable/disable SNMPv2c service, 0: disable, 1: enable;

servport: SNMP port number.

rcommunity: the name of read community;

wcommunity: the name of write community;

trapip: Trap address

trapport:Trap port

v3active: enable/disable SNMPv3, 0: disable, 1: enable

rouser.name: the name of the security for reading

rouser.securty: security class:0:no auth,no priv 1:auth,no priv 2:auth, priv

rouser.authtype: Authentication method: 0:MD5 1:SHA

rouser.authpwd: Password of authentication method;

rouser.algtype: Type Key of authentication method, 0:DES 1:AES

rouser.algpwd: Key

rwuser.name: the name of the security of writing

rwuser.securty: security class:0:no auth,no priv 1:auth,no priv 2:auth, priv

rwuser.authtype: authentication method, 0:MD5 1:SHA

rwuser.authpwd: authentication password

rwuser.algtype: Type Key of authentication method, 0:DES 1:AES

rwuser.algpwd: Key

3 Media

3.1 Get and Set Video encode parameters

Description

The interface to get and set the video encode parameters like codec type like H.264 and H.265, video resolution, video frame rate, frame control type, key frame interval parameter, bit rate, codec quality and codec profile class etc.

Request URL

GET:

```
/action/get?subject=videoenc&stream=0 [stream: Encode stream Type (0: main stream 1: sub stream)]
```

SET:

```
/action/set?subject=videoenc&stream=0
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<requset>
    <videoenc>
        <active>1</active>
        <codec>1</codec>
        <resolution>2048x1520</resolution>
        <framerate>25</framerate>
        <rc>0</rc>
        <keygop>50</keygop>
        <bitrate>6000</bitrate>
        <quality>4</quality>
        <profile>4</profile>
```

```
            <audioen>1</audioen>
        </videoenc>
</requset>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
        <videoenc>
                <active>1</active>
                <codec>0</codec>
                <resolution>2048x1520</resolution>
                <framerate>25</framerate>
                <rc>0</rc>
                <keygop>50</keygop>
                <bitrate>6000</bitrate>
                <quality>4</quality>
                <profile>4</profile>
              <audioen>1</audioen>
        </videoenc>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

active: Enable/Disable the stream: 0: Disable 1: Enable

codec: Codec type (0: h264 1:h265)

resolution: Resolution Format: width*height

framerate: Frame Rate

rc: Frame control (0: Variable stream 1:)

keygop: key frame interval

bitrate: bit rate

quality: codec quality

profile: codec profile Class (0: base 1:main 2:high)

audioen: disable / enable audio (0: disable 1: enable)

NOTE:

profile: now the main profile is supported.

3.2 Get and Set Snapshot stream codec parameters

Description

The interface to get and set the snapshot stream codec parameters like the frame rate, codec quality and snapshot interval etc.

Request URL

GET:

```
/action/get?subject=snap
```

SET:

```
/action/set?subject=snap
```

Request Body

GET: None

SET:

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

<request>

    <snap>

        <framerate>1</framerate>

        <quality>4</quality>
```

```
            <interval>5</interval>
            <stream>0</stream>
            <path>0</path>
      </snap>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
      <snap>
            <framerate>1</framerate>
            <quality>4</quality>
            <interval>5</interval>
            <stream>0</stream>
            <path>0</path>
      </snap>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

framerate: frame rate

quality: codec quality

interval: snapshot interval, unit: second, valid range: [1, 600]

stream: the snapshot stream type, 0: mainstream, 1: substream.

Path: the snapshot storage direction 0: local storage; 1: NFS storage

Note: MSTAR MSC313E solution 2MP camera has no “snapshot” feature, and MSTAR MSC316DM 4.0/5.0MP cameras has the snapshot, and only “sub stream” can be selected.

3.3 Get and Set audio codec parameters

Description

The interface to get and set the audio codec parameters like the audio codec type (G.711 a law, u law and AAC), audio sampling rate, sampling width, bit rate, audio channel number and audio input mode etc.

Request URL

GET:

```
/action/get?subject=audioenc
```

SET:

```
 /action/set?subject=audioenc
```

Request Body

GET: None

SET:

```
 <?xml version="1.0" encoding="utf-8"?>
<request>
<audioenc>
            <active>1</active>
            <codec>1</codec>
            <sample>8000</sample>
            <bitwidth>16</bitwidth>
            <bitrate>16000</bitrate>
            <channel>0</channel>
            <input>0</input>
      </audioenc>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
<audioenc>
    <active>1</active>
        <codec>1</codec>
        <sample>8000</sample>
        <bitwidth>16</bitwidth>
        <bitrate>16000</bitrate>
        <channel>0</channel>
        <input>0</input>
    </audioenc>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

■ **Further description**

active: enable or disable audio (transmission and record etc.) （0：disable 1: enable）

codec: codec type (0: g711u 1: g711a 2:AAC 3: mp2 4: pcm 5: g726 ）

sample: audio sampling rate
bitwidth: sampling width
bitrate: bit rate, unit: kps
channel: audio channel number (0: single channel 1: stereo)
input: audio input mode (0: line 1: MIC)

NOTE:
Now only the Single Channel (0) is supported.

3.4 Get Video codec capacity parameters

■ **Description**

The interface to get the video codec capacity parameters like the encode type supported, H.264 encode option, video resolution, frame rate, bitrate, codec control value range, key frame interval value range, h.264 profile etc.

Request URL

```
/action/get?subject=videoencability&stream=0 [stream: encode stream type (0: mainstream 1: substream)]
```

Request Body

None.

Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <videoencability>
        <h264>
            <option>
                <resolution>1280x960</resolution>
                <framerate>5-25</framerate>
                <bitrate>1000-6000</bitrate>
                <rc>0-1</rc>
                <quality>0-5</quality>
                <keygop>5-100</keygop>
                <profile>1-1</profile>
            </option>
            ....
        </h264>
        <h265>
            <option>
                <resolution>1280x960</resolution>
                <framerate>5-25</framerate>
                <bitrate>1000-6000</bitrate>
                <rc>0-1</rc>
                <quality>0-6</quality>
                <keygop>5-100</keygop>
                <profile>1-1</profile>
            </option>
            ...
            </h265>

      </videoencability>

</response>
```

Further description

h264: Encode Type.
h264.option: H.264 encode option, there will be multiple option if multiple resolution supported.
h264.option.resolution: h.264 video resolution, format: width*height
h264.option.framerate: h.264 video frame rate range supported, format: minimum - maximum value
h264.option.bitrate: bit rate range supported: format: minimum - maximum value
h264.option.rc: codec control value range, format: minimum - maximum value
h264.option.quality: codec quality value range, format: minimum - maximum value

h264.option.keygop: key frame interval value range supported, format: minimum - maximum value
h264.option.profile: codec class range: format: minimum - maximum value

h265: encode type supported
h265.option : refer to h.264 option's parameters

Note:
MSTAR MSC316DM solution 4.0/5.0MP cameras support 5.0MP@15fps, 4.0MP/3.0MP/1080P/720P@20FPS, the frame is fixed 20FPS for 4MP, 3MP, 1080P and 720P.

3.5 Get audio codec capacity parameters

Description

The interface to get the audio codec capacity parameters like the encode type like G.711 or AAC, G.711a option, audio sampling, biwidth, bitrate, channel and G.711u and AAC parameters etc.

Request URL

```
/action/get?subject=audioencability
```

Request Body

None.

Response

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

```
<response>
    <audioencability>
        <g711a>
            <option>
                <sample>8000</sample>
                <bitwidth>16</bitwidth>
                <bitrate>16000</bitrate>
                <channel>0</channel>
                <channel>1</channel>
            </option>
            <option>
                <sample>16000</sample>
                <bitwidth>16</bitwidth>
                <bitrate>32000</bitrate>
                <channel>0</channel>
                <channel>1</channel>
            </option>
        </g711a>
        <g711u>
            <option>
                <sample>8000</sample>
                <bitwidth>16</bitwidth>
                <bitrate>16000</bitrate>
                <bitrate>32000</bitrate>
                <channel>0</channel>
                <channel>1</channel>
            </option>
        </g711u>
    </audioencability>
</response>
```

Further description

g711a: audio encode type supported.
g711a.option: encode option g711a supported. There will be multiple option if there is multiple sampling methods.
g711a.option.sample: sampling rate supported.

g711a.option.bitwidth: sampling width supported.
g711a.option.bitrate: bit rates supported.
g711a.option.channel: channel list supported.

g711u: audio encode type supported.
g711u.option : refer to g711a's option

AAC: audio encode type supported.
AAC.option: refer to g711a’s option.

Note:

1. In the current version, G.711a, G.711u, AAC, MP2, PCM ang G.726 are supported.

3.6 Get and Set Motion Detection Parameters

Description

The interface to get and set motion detection parameters like whether to enable motion detection or not, relative zone display resolution, the sensitivity of the motion detection and motion detection zone range etc.

Request URL

GET:

```
/action/get?subject=motion
```

SET:

```
/action/set?subject=motion
```

Request Body

GET: None

SET:

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

<request>

    <motion>

        <active>0</active>

        <resolution>640x360</resolution>
```

```
            <sensitivity>0</sensitivity>

            <threshold>0</threshold>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

      </motion>

</request>
```

Response

GET:

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

<response>

      <motion>

            <active>0</active>

            <resolution>640x360</resolution>

            <sensitivity>0</sensitivity>

            <threshold>0</threshold>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

      </motion>

</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

active: Enable Motion Detection or not (0:Disable 1: Enable)
resolution: Relative Zone display resolution, format: width*height

sensitivity: motion detection sensitivity, the bigger value, the high sensitivity, value range:[0,9]
threshold: the threshold value of motion detection, the value range is [0,100].
rect: motion detection zone range, maximum 4 zones supported, format: x coordinate, y coordinate, width, height.

3.7 Get and Set Privacy mask parameters

Description

The interface to get and set privacy mask parameters like whether to enable privacy mask or not, privacy mask set zone display resolution and zone range etc.

Request URL

GET:

```
/action/get?subject=privacy
```

SET:

```
/action/set?subject=privacy
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <privacy>
        <active>0</active>
        <resolution>640x360</resolution>
        <rect>0,0,0,0</rect>
        <rect>0,0,0,0</rect>
        <rect>0,0,0,0</rect>
        <rect>0,0,0,0</rect>
    </privacy>
```

```
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
      <privacy>
            <active>0</active>
            <resolution>640x360</resolution>
            <rect>0,0,0,0</rect>
            <rect>0,0,0,0</rect>
            <rect>0,0,0,0</rect>
            <rect>0,0,0,0</rect>
      </privacy>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

active: Enable privacy mask or not (0: disable 1: enable)
resolution: relative zone display resolution, format: width*height
rect: privacy mask zone range, maximum 4 zones supported, format: x coordinate, y coordinate, width, height.

3.8 Get and Set Video Shield Parameters

Description

The interface to get and set video shield parameters like whether to enable video shield or not, the sensitivity of the video shield etc.

Request URL

GET:

```
/action/get?subject=tamper
```

SET:

```
/action/set?subject=tamper
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <tamper>
        <active>0</active>
        <sensitivity>0</sensitivity>
    </tamper>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <tamper>
        <active>0</active>
        <sensitivity>0</sensitivity>
    </tamper>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
```

```
500: Failed to Set.
```

Further description

active: Enable Video Shield or not (0: Disable, 1: Enable)
sensitivity: Video Shield Sensitivity, the bigger value, the higher sensitivity, valid value range: [0,2]

3.9 Get and Set Image parameters

Description

The interface to get and set image parameters like the video frequency, image parameters like saturation, sharpness, contrast, brightness, and the features related with the image like image mirroring, De-noise status, day and night work mode, WDR status, light mattering mode, electronica shutter, Auto Iris and the white balance mode parameters etc.

Request URL

GET:

```
/action/get?subject=videoimage
```

SET:

```
/action/set?subject=videoimage
```

Request Body

GET: None

SET:

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

<request>

    <videoimage>

        <freq>0</freq>

        <imgstyle>0</imagestyle>

        <saturation>50</saturation>

        <sharpness>50</sharpness>

        <contrast>50</contrast>

        <brightness>50</brightness>
        <mirror>0</mirror>

        <noise>50</noise>

        <ldc>0</ldc>

        <defog>0</defog>

        <smartir>0</smartir>

        <rotate>0</rotate>

        <daynight>

            <mode>0</mode>

            <tsection>0-0</tsection>

            <color>35</color>

            <grey>20</grey>

        </daynight>

        <widedynamic>

            <wdr>0</wdr>

            <backlight>0</backlight>

        </widedynamic>

        <autoexposure>

            <metter>1</metter>

            <shutter>4</shutter>

            <iris>0</iris>

        </autoexposure>

        <whitebalance>

            <mode>0</mode>

            <rgain>50</rgain>

            <ggain>50</ggain>

            <bgain>50</bgain>

        </whitebalance>

    </videoimage>

</request>
```

Response

GET:

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

<response>
```

```
<videoimage>
    <freq>0</freq>
    <imgstyle>0</imagestyle>
    <saturation>50</saturation>
    <sharpness>50</sharpness>
    <contrast>50</contrast>
    <brightness>50</brightness>
    <mirror>0</mirror>
    <noise>50</noise>
    <ldc>0</ldc>
    <defog>0</defog>
    <smartir>0</smartir>
    <rotate>0</rotate>
    <daynight>
        <mode>0</mode>
        <tsection>0-0</tsection>
        <color>35</color>
        <grey>20</grey>
    </daynight>
    <widedynamic>
        <wdr>0</wdr>
        <backlight>0</backlight>
    </widedynamic>
    <autoexposure>
        <metter>1</metter>
        <shutter>4</shutter>
        <iris>0</iris>
    </autoexposure>
    <whitebalance>
        <mode>0</mode>
        <rgain>50</rgain>
        <ggain>50</ggain>
        <bgain>50</bgain>
    </whitebalance>
    </videoimage>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

freq: Video Frequency (0:50hz 1:60hz)
imgstyle: Display mode: 0: standard; 1: bright; 2: vivid; 3: Gentle; 4: custom
saturation: Saturation, valid value range: [0 , 100]
sharpness: Sharpness, valid value range: [0 , 100]
contrast: Contrast, valid value range: [0 , 100]
brightness: Brightness, valid value range: [0 , 100]
mirror: Mirroring type: (0: horizontal vertical 1: horizontal 2: vertical 3: NONE)
noise : Denoise, valid value: [0, 100]
ldc: Lens Distortion Correction, valid value: [0, 100]
defog: Enable or Disable Defog: 0: disable 1: enable;
smarter: Enable or Disable Smart IR feature: 0: disable 1: enable;
rotate: Image rotate, 0: close, 1: rote 90 degree;

daynight.mode: Day & Night Mode (0: auto 1:color 2: Black & White 3:Timiing 4: inter-sync)
daynight.tsection: Color Time Segment on Timing work mode, format: starting time - ending time
daynight.color: B&W switch to Color threshold on inter-sync work mode
daynight.grey: Color switch to B&W threshold on inter-sync work mode

widedynamic.wdr: Enable WDR or not (0: Disable, 1: Enable)
widedynamic.backlight: Enable Back Light Compensation or not (0: Disable, 1: Enable)

autoexposure.metter: Light mattering mode (0: Global 1: middle)
autoexposure.shutter: Shutter
0: 1/2;
1: 1/4;
2: 1/8;
3: 1/10;
4: 1/12;
5: 1/15;
6: 1/25 or 1/30 (60Hz)
7: 1/50 or 1/60 (60Hz)
8: 1/100 or 1/120 (60Hz)
9: 1/125
10: 1/200
11: 1/500

12: 1/1000
autoexposure.iris: Enable Auto Iris (0: Disable 1: Enable)

whitebalance.mode: White Balance Mode (0: Auto 1: Outdoor 2: Indoor 3: Fluorescent Lamp 4: Manual)
whitebalance.rgain: Red Gain on manual mode
whitebalance.ggain: Green Gain on manual mode
whitebalance.bgain: Blue Gain on manual mode

Note :
MSTAR MSC316DM and MSC313E solution cameras has no “smart IR” feature.

3.10 Get RTSP Service Request URL

Description

The interface to get the RTSP URL address of the mainstream and substream.

Request URL

```
/action/set?subject=rtspurl&stream=0 [stream: Encode Stream Type(0:mainstream 1: substream)]
```

Request Body

None.

Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <refer>
        <url>rtsp://192.168.1.120:554/live/main</url>
        <expire>0</expire>
    </refer>
</response>
```

3.11 Get Snapshot Request URL

Description

The interface to get the snapshot request URL address.

Request URL

```
/action/set?subject=snapurl
```

Request Body

None.

Response

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <refer>
        <url>http://192.168.1.120:80/action/snap?cam=0</url>
        <expire>0</expire>
    </refer>
</response>
```

3.12 Get and Set OSD Parameters

Description

The interface to get and set OSD parameters like the system information, user customized information, whether to display OSD or not and the zone range etc.

Request URL

GET:

```
/action/get?subject=osd
```

SET:

```
/action/set?subject=osd
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <osd>
        <system>
            <active>1</active>
            <xpos>100<xpos>
            <ypos>100<ypos>
        </system>
        <datetime>
            <active>1</active>
            <xpos>200<xpos>
            <ypos>300<ypos>
        </datetime>
        <picture>
            <active>1</active>
            <xpos>200<xpos>
            <ypos>300<ypos>
        </picture>
        <custom>
            <active>1</active>
            <xpos>200<xpos>
            <ypos>300<ypos>
            <ctext>HDIPCAM<ctext>
        </custom>
    </osd>
</request>
```

■ Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <osd>
     <osd ver="2.0">
         <system>
             <active>1</active>
             <xpos>100<xpos>
             <ypos>100<ypos>
         </system>
         <datetime>
             <active>1</active>
             <xpos>200<xpos>
             <ypos>300<ypos>
         </datetime>
         <picture>
             <active>1</active>
             <xpos>200<xpos>
             <ypos>300<ypos>
         </picture>
         <custom>
             <active>1</active>
             <xpos>200<xpos>
             <ypos>300<ypos>
             <ctext>HDIPCAM<ctext>
         </custom>
     </osd>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

■ Further description

system: System Information
datetime: Date and Time information
picture: Pictures

custom: User defined information

active: if to be display or not (0:no 1: yes)
xpos: Axis-X displayed.
xpos:Axis_y displayed.
ctext: The string the user defined.

NOTE:

1. Please refer to the system parameter command if the format of the day and time display need to be modified.
2. If “osd version” =2.0, xpos and ypos coordinator unit will use permillage, otherwise it will adopt the related pixel unit value to mainstream resolution.
3. “picture” is added when “osd version” =2;

3.13 Get and Set ROI Parameters

Description

The interface to get and set ROI parameters like the ROI related zone resolution, zone etc.

Request URL

GET:

```
/action/get?subject=videorio
```

SET:

```
/action/Set?subject=videorio
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <videoroi>
        <active>0</active>
        <resolution>640x480</resolution>
        <rect>0,0,200,200</rect>
        <rect>0,0,0,0</rect>
```

```
            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

      </videoroi>

</request>
```

Response

GET:

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

<response>

      <videoroi>

            <active>0</active>

            <resolution>640x480</resolution>

            <rect>0,0,200,200</rect>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

            <rect>0,0,0,0</rect>

      </videoroi>

</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

Active : 0: Disable, 1: Enable
Resolution: the display resolution of the relative set zone, the format is width * height
Rect: the ROI zone, ROI supports the maximum 4 ROI zones, the format is X rect, Y rect, width, hight.

3.14 Get and Set Audio Input and Output Volume

Description

The interface is used to control the volume of the Audio volume if the camera has the audio input device like built-in microphone, or the audio input device (like microphone, audio Pick-up device) which is connected to the cameras through audio input interface, and audio output device like built-in speaker, or the audio output device (like passive or active speaker etc.) which is connected to the cameras through audio output interface.

Request URL

GET:

```
/action/get?subject=audiovolume
```

SET:

```
/action/Set?subject=audiovolume
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <audiovolume>
        <input>0</input>
        <output>0</output>
    </audiovolume>
</request>
```

Response

GET:

```
 <?xml version="1.0" encoding="utf-8"?>
<response>
   <audiovolume>
        <input>0</input>
        <output>0</output>
    </audiovolume>
```

```
</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

Input: the volume of the input audio, the value range is [0, 100]
Output: the volume of the output audio, the value range is [0,100]

3.15 Get and Set Image Parameters Templates

Description

The interface is used to set the camera's image parameters by the templated method. It means the user can use the "Day" parameters for the working "Day" mode, and can use the "Night" parameters for the working "Night" mode.

Request URL

GET:

```
/action/get?subject=cameraimage
```

SET:

```
/action/Set?subject=cameraimage
```

Request Body

GET: None

SET:

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

  <response>

   <cameraimage ver="2.0">
```

```
    <freq>0</freq>
    <rotate>0</rotate>
    <mirror>0</mirror>
    <mode>0</mode>
    <daysect>21600-64800</daysect>
    <imagescene>
        <imgstyle>0</imgstyle>
        <saturation>50</saturation>
        <sharpness>50</sharpness>
        <contrast>50</contrast>
        <brightness>50</brightness>
        <noise>50</noise>
        <ldc>0</ldc>
        <defog>0</defog>
        <smartir>0</smartir>
        <dnr2d>1</dnr2d>
        <dnr3d>1</dnr3d>
        <widedynamic>
            <wdr>0</wdr>
            <backlight>0</backlight>
        </widedynamic>
        <autoexposure>
            <mode>0</mode>
            <metter>0</metter>
            <shutter>4</shutter>
            <iris>0</iris>
        </autoexposure>
        <whitebalance>
            <mode>0</mode>
            <rgain>50</rgain>
            <ggain>50</ggain>
            <bgain>50</bgain>
        </whitebalance>
    </imagescene>
```

```
            <imagescene>
                        <imgstyle>0</imgstyle>
                        <saturation>50</saturation>
                        <sharpness>50</sharpness>
                         <contrast>50</contrast>
                        <brightness>50</brightness>
                        <noise>50</noise>
                        <ldc>0</ldc>
                        <defog>0</defog>
                        <smartir>0</smartir>
                        <dnr2d>1</dnr2d>
                        <dnr3d>1</dnr3d>
                        <widedynamic>
                                    <wdr>0</wdr>
                                    <backlight>0</backlight>
                        </widedynamic>
                        <autoexposure>
                                    <mode>0</mode>
                                    <metter>0</metter>
                                     <shutter>4</shutter>
                                    <iris>0</iris>
                        </autoexposure>
                        <whitebalance>
                                    <mode>0</mode>
                                    <rgain>50</rgain>
                                    <ggain>50</ggain>
                                    <bgain>50</bgain>
                        </whitebalance>
            </imagescene>
            <imagescene>
                        <imgstyle>0</imgstyle>
                        <saturation>0</saturation>
                        <sharpness>0</sharpness>
                        <contrast>0</contrast>
```

```
                <brightness>0</brightness>
                <noise>50</noise>
                <ldc>0</ldc>
                <defog>0</defog>
                <smartir>-1091487120</smartir>
                <dnr2d>1</dnr2d>
                <dnr3d>1</dnr3d>
                <widedynamic>
                    <wdr>0</wdr>
                    <backlight>0</backlight>
                </widedynamic>
                <autoexposure>
                    <mode>0</mode>
                    <metter>0</metter>
                    <shutter>0</shutter>
                    <iris>0</iris>
                </autoexposure>
                <whitebalance>
                    <mode>0</mode>
                    <rgain>0</rgain>
                    <ggain>0</ggain>
                    <bgain>0</bgain>
                </whitebalance>
            </imagescene>
            <daynight>
                <mode>0</mode>
                <irled>0</irled>
                <daysect>21600-64800</daysect>
                <color>10</color>
                <grey>5</grey>
            </daynight>
  </cameraimage>
</response>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
  <response>
   <cameraimage ver="2.0">
                <freq>0</freq>
                <rotate>0</rotate>
                <mirror>0</mirror>
                <mode>0</mode>
                <daysect>21600-64800</daysect>
                <imagescene>
                            <imgstyle>0</imgstyle>
                            <saturation>50</saturation>
                            <sharpness>50</sharpness>
                            <contrast>50</contrast>
                            <brightness>50</brightness>
                            <noise>50</noise>
                            <ldc>0</ldc>
                            <defog>0</defog>
                            <smartir>0</smartir>
                            <dnr2d>1</dnr2d>
                            <dnr3d>1</dnr3d>
                            <widedynamic>
                                        <wdr>0</wdr>
                                        <backlight>0</backlight>
                            </widedynamic>
                            <autoexposure>
                                        <mode>0</mode>
                                        <metter>0</metter>
                                        <shutter>4</shutter>
                                        <iris>0</iris>
                            </autoexposure>
                            <whitebalance>
                                        <mode>0</mode>
```

```
                        <rgain>50</rgain>
                        <ggain>50</ggain>
                        <bgain>50</bgain>
                </whitebalance>
        </imagescene>
        <imagescene>
                <imgstyle>0</imgstyle>
                <saturation>50</saturation>
                <sharpness>50</sharpness>
                 <contrast>50</contrast>
                <brightness>50</brightness>
                <noise>50</noise>
                <ldc>0</ldc>
                <defog>0</defog>
                <smartir>0</smartir>
                <dnr2d>1</dnr2d>
                <dnr3d>1</dnr3d>
                <widedynamic>
                        <wdr>0</wdr>
                        <backlight>0</backlight>
                </widedynamic>
                <autoexposure>
                        <mode>0</mode>
                        <metter>0</metter>
                         <shutter>4</shutter>
                        <iris>0</iris>
                </autoexposure>
                <whitebalance>
                        <mode>0</mode>
                        <rgain>50</rgain>
                        <ggain>50</ggain>
                        <bgain>50</bgain>
                </whitebalance>
        </imagescene>
        <imagescene>
                <imgstyle>0</imgstyle>
                <saturation>0</saturation>
                <sharpness>0</sharpness>
                <contrast>0</contrast>
                <brightness>0</brightness>
                <noise>50</noise>
                <ldc>0</ldc>
                <defog>0</defog>
                <smartir>-1091487120</smartir>
                <dnr2d>1</dnr2d>
                <dnr3d>1</dnr3d>
                <widedynamic>
                        <wdr>0</wdr>
                        <backlight>0</backlight>
                </widedynamic>
                <autoexposure>
                        <mode>0</mode>
                        <metter>0</metter>
                        <shutter>0</shutter>
                        <iris>0</iris>
                </autoexposure>
                <whitebalance>
                        <mode>0</mode>
                        <rgain>0</rgain>
                        <ggain>0</ggain>
                        <bgain>0</bgain>
                </whitebalance>
        </imagescene>
        <daynight>
                <mode>0</mode>
                <irled>0</irled>
                <daysect>21600-64800</daysect>
                <color>10</color>
```

```
                                    <grey>5</grey>
                    </daynight>
   </cameraimage>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

freq: the system frequency value (0: 50Hz, 1: 60Hz)
rotate: the image rotation value. (0: Close rotation; 1: 90 degree)
mirror: the type of mirroring. (0: Horizontal + Vertical, 1: Horizontal, 2: Vertical,3: No Mirroring.)
mode: Image application scene mode (0: Normal mode, 1: Day mode, 2: Night mode, 3. Timing mode)
daysect: The day time segment setting, its format is starting time-ending time, the unit is second, it’s valid only when mode is “timing mode”.

Imagescene.imgstyle: the image style -0: standard, 1: Bright, 2: Vivid, 3: Gentle, 4: Custom.
Imagescene.saturation: the image saturation, the valid value range [0, 100], it is valid when imgstyle is 4.
Imagescene.sharpness: the image sharpness, the valid value range [0,100], it is valid when imgstyle is 4.
Imagescene.contrast: the image contrast, the valid value range [0, 100], it is valid when imgstyle is 4.
Imagescene.brightness: the image brightness, the valid value range [0,100], it is valid when imgstyle is 4.

Imagescene.noise: the value of the noise reduction, the valid value range [0, 100].
Imagescene.ldc: the value of the LDC (Lens Distortion Correction), the valid value range [0, 100].
Imagescene.dnr3d: Enable or Disable 3D noise reduction: 0: Disable; 1: Enable;
Imagescene.dnr2d: Enable or Disable 2D noise reduction: 0: Disable; 1: Enable;

Imagescene.defog: Enable or Disable Defog, 0: Disable; 1: Enable;
Imagescene.smartir: Enable or Disable Smart IR, 0: Disable; 1: Enable;
Imagescene.widedynamic.wdr: Enable or Disable WDR, 0: Disable; 1: Enable;
Imagescene.widedynamic.backlight: Enable or Disable back light compensation, 0: Disable; 1: Enable;

Imagescene.autoexposure.metter: Light metering mode, 0: Global; 1:Middle;
Imagescene.autoexposure.shutter: Shutter value;
0: 1/2;
1: 1/4;

2: 1/8;
3: 1/10;
4: 1/12;
5: 1/15;
6: 1/25 or 1/30 (60Hz)
7: 1/50 or 1/60 (60Hz)
8: 1/100 or 1/120 (60Hz)
9: 1/125
10: 1/200
11: 1/500
12: 1/1000
Imagescene.autoexposure.iris: Enable or Disable Auto IRIS, 0: Disable; 1: Enable;

Imagescene.whitebalance.mode: The mode of White Balance, 0: Auto; 1: Outdoor; 2:Indoor; 3: light lamp; 4: Manual;
Imagescene.whitebalance.rgain: Red Gain value when the white balance is "Manual";
Imagescene.whitebalance.ggain: Green Gain value when the white balance is "Manual";
Imagescene.whitebalance.bgain: Blue Gain value when the white balance is "Manual";

Daynight.mode: The mode of day and night, 0: Auto; 1: Color; 2:WB; 3: Timing; 4: Internal sync;
Daynight.tsection: the time segment of the color mode when daynight.mode is 3. Its format is starting time – ending time.
Daynight.color: the threshold value of the light when the WB mode switched to Color mode during "daynight.mode is 4";
Daynight.grey: the threshold value of the light when the color mode switch to WB mode during "daynight mode is 4"
Daynight.irmode: the IR LED mode, 0: auto; 1: open the LED; 2: close the LED.

Note:

1. There are total 4 kinds of imagescenes, as sequence, they are Normal mode, Day mode, Night mode, and Timing mode.

4 Alarm

4.1 Get and Set Alarm Parameters

■ **Description**

The interface to get and set the alarm parameters like alarm schedule mode, alarm input delay time, alarm output work way, and scheduled alarm information etc.

■ **Request URL**

GET:

```
/action/get?subject=alarm&type=0 [type: Alarm Type (0:IO alarm 1: Device Startup 2: Motion Detection 3: Video Shield 4: PIR
5: Disconnection 10: Line crossing 11: Intrusion 12: Human detection 13: Face detection 14: Object left and remove 15:
lorterring)]
```

SET:

```
/action/set?subject=alarm&type=0
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <alarmevt>
        <active>0</active>
        <duration>10</duration>
        <outmask>256</outmask>
        <schedule>
            <day>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
            </day>
            <day>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
            </day>
```

```
                ...
            </schedule>
        </alarmevt>
</response>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
        <alarmevt>
            <active>0</active>
            <duration>10</duration>
            <outmask>256</outmask>
            <schedule>
                <day>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                </day>
                <day>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                    <tsection>0-0</tsection>
                </day>
                ...
            </schedule>
        </alarmevt>
```

```
</response>
```

SET:

```
200: Succeed to Set.

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

active: Alarm Schedule mode (0: Disable 1:7*24 Hours 2: Scheduled)
duration: Alarm Input Delay Time
outmask: Alarm Processing mask code, every bit show every alarm output type. The value is *decimal. The value is calculated through binary.*

bit0-bit7: IO Alarm output
bit8-bit11: LED alarm output
bit12: snapshot
bit13: recording
bit14: FTP upload
bit15: PTZ
bit16: Sending mail
bit17: audio alarm
bit18: push alarm message to the server

For example, you want to set the camera to make the snapshot, and then to upload the snapshot to the FTP server:

```
Bit0                                                   Bit16 Bit17
0   0   0   0   0   0   0   0   0   0   0   0   1   0   1   0   0    0    0
```

The hexadecimal value is 0x5000, so the decimal value is 20480. Now the outmask value is 20480.

schedule: alarm scheduled information, schedule is on week, 6 time segments per day, unit: second.
tsection: format, starting time - ending time, as example 0 clock to 1 clock is 0-3600.

Note:
bit12: snapshot ： MSTAR MSC313E solution 2MP cameras donot support this action, and MSTAR MSC316DM 4.0MP/5.0MP cameras support the action, and the snapshot is using sub stream for snapshot.

4.2 Subscribe Alarm Information

Description

The interface to subscribe the alarm.

Request URL

```
/action/alarm?subject=subscript
```

Request Body

None.

Response

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

<response>

      <refer>

            <url>http://192.168.1.120:80/alarm?subject=query&=1</url>

            <expire>10</expire>

      </refer>

</response>
```

Further description

url: URL of subscribe alarm request
expire: Valid period, unit: second

Alarm Subscribing procedure:
1. Send the request of alarm subscribing to thedevice.
2. it’s needed to send alarm lookup to the device continuously within valid time after the URL of the alarm lookup got, thus the alarm real-time can besaved.
3. Send the request to delete the alarm subscribe to the device when exit.

4.3 Get Alarm Information

Description

The interface to get alarm information like the alarm type, alarm source, the alarm happened time and the alarm status etc.

Request URL

```
/action/alarm?subject=query&id=0
```

Request Body

None.

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
  <alarmmsg>
                <topic>MOTION</topic>
                                <source>0</source>
                                <status>1</status>
                                <datetime>2000-01-01T08:06:27</datetime>
                                <mdstatus>
                                                <row>18</row>
                                                <col>22</col>
                                                <move>0</move>
                                                 <cell>0,0,0,0,0,0,0,0,0,0,0,0,0,0,0</cell>
                                </mdstatus>
  </alarmmsg>
  <alarmmsg>
                <topic>CROSSLINE</topic>
                                <source>0</source>
                                <status>0</status>
                                <datetime>2000-01-01T08:06:27</datetime>
  </alarmmsg>
  <alarmmsg>
                <topic>INSTRUSION</topic>
                                <source>0</source>
                                <status>0</status>
                                <datetime>2000-01-01T08:06:27</datetime>
  </alarmmsg>
  <alarmmsg>
                <topic>HUMANDECTION</topic>
                                <source>0</source>
                                <status>0</status>
                                <datetime>2000-01-01T08:06:27</datetime>
  </alarmmsg>
  <alarmmsg>
          <topic>FACEDECTION</topic>
                  <source>0</source>
                  <status>0</status>
                  <datetime>2000-01-01T08:06:27</datetime>
  </alarmmsg>
  <alarmmsg>
          <topic>OBJECTLEFTLOST</topic>
                  <source>0</source>
                  <status>0</status>
                  <datetime>2000-01-01T08:06:27</datetime>
  </alarmmsg>
  <alarmmsg>
          <topic>LOITERING</topic>
                  <source>0</source>
                  <status>0</status>
                  <datetime>2000-01-01T08:06:27</datetime>
  </al
>
</response>
```

Further description

topic: alarm information topic: IO/MOTION/PIR
source: alarm source
datetime: alarm time, format: YYYY-MM-DD hh:mm:ss
status: alarm status (0: alarm end 1: alarm happen)
data: alarm data. It’s valid when the “status” = 1; please check the defined data format which is described in the 4.8 Alarm data format definition.

NOTE:
1. Request URL is that be returned when it is to subscribe alarm from the device.
2. It's need to ask the request on overtime period, otherwise the device will release automatically the alarm subscribed.
3. The request will postpone automatically the valid time of the alarm subscribed.

4.4 Delete the alarm subscription

Description

The interface to destroy the alarm subscription.

Request URL

```
/action/alarm?subject=destroy&id=0
```

Request Body

None.

Response

```
200: Successful

400: Error to request

500 : Failed
```

Further description

NOTE:

1. Request URL is that be returned when it is to subscribe alarm from the device.

4.5 Alarm notification

Description

The interface is used to ask the device to report the alarm data.

Request URL

```
/action/alarm?subject=notify
```

Request Body

None.

Response

```
200: Successful

400: Error to request

500 : Failed
```

Further description

NOTE:
The work process of the device’s alarm report is like the below:

1) Send the alarm report request to the device using this interface;
2) Waiting for the reported alarm data from the device after receiving the 200 response, now the connection should not be cut off. (Please refer to 4.8 alarm data definition)
3) The device send the alarm data to the client when there is the alarm event detected.
4) The client disconnect the device when quit, and release the resource.

4.6 Get and Set I/O alarm parameters

Description

The interfaces are used to get and set the I/O alarm parameters if the device supports alarm input and output interfaces.

Request URL

GET:

```
/action/get?subject=alarmio
```

SET:

```
/action/set?subject=alarmio
```

Request Body

GET: None.

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <alarmio>
        <input>1</input>
        <output>1</output>
        <outcur>1</outcur>
    </alarmio>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <alarmio>
        <input>1</input>
        <output>1</output>
        <outcur>1</outcur>
    </alarmio>
</response>
```

SET:

```
200: Successful
400: Error to request
500 : Failed
```

Further description

NOTE:
Input: alarm input level, each bit present each IO, the device supports the maximum 32 alarm IOs.
Output: alarm output level, each bit present each IO, the device supports the maximum 32 alarm IOs.
Outcur: IO alarm current output level, each bit presents each IO, the device supports the maximum 32 alarm IOs.
Bit0 ~ bit 1: 1: high level, 0: low level
The device currently supports maximum only 1 I/O alarm.

4.7 Trigger the Alarm Event Manually

Description

The user can use the interface to trigger the alarm event.

Request URL

```
/action/alarm?subject=trigger&event=manual
```

Request Body

```
Event: Event Name (Manual: Manual Event)
```

Response

```
200: Successful

400: Error to request

500 : Failed

503: Unused service
```

Further description

Note:

1. Current only “Manual” event can be supported.

4.8 Get and Set Alarm Sever parameters

Description

The interfaces are used to set and get the alarm event server’s parameters including server name, server address and port etc.

Request URL

GET:

```
 /action/get?subject=evtserver
```

SET:

```
/action/set?subject=evtserver
```

Request Body

GET: None.

SET:

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

<request>

      <evtserver>
```

```
        <eserver>
            <name>event1</name>
            <host>server</host>
            <port>1</port>
        <eserver>
        <eserver>
            <name>event2</name>
            <host>server</host>
            <port>2</port>
        <eserver>
        ...
    </evtserver>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <evtserver>
        <eserver>
            <name>event1</name>
            <host>server</host>
            <port>1</port>
        <eserver>
        <eserver>
            <name>event2</name>
            <host>server</host>
            <port>2</port>
        <eserver>
        ...
    </evtserver>
</response>
```

SET:

```
200: Successful

400: Error to request

500 ：Failed
```

- **Further description**

eserver.name: the name of alarm event server (it should be unique name.)
eserver.host: the address of the alarm event server.
Eserver.port. the port of the alarm event server.

Note:
1. Max. 4 servers can be supported.
2. The sequence of alarm server to receive the alarm pushing is the same as the servers list.

4.9 Get the status of motion detection

- **Description**

The interface is used to get the status of motion detection, the details data status can be refer to the alarm data definition in the next item.

- **Request URL**

```
/action/get?subject=mdstatus
```

- **Request Body**

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

<response>

  <mdstatus>

      <row>36</row>

      <col>44</col>

      <move>2720</move>

<cell>0,0,0,0,0,0,0,0,0,0,0,0,f0000000,7c00001f,c00001ff,1ff7,1ff7c,1ff7c0,1ff7c00,7e00000,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0</cell>

</mdstatus>

</response>
```

- **Response**

```
200: Successful

400: Error to request

500 : Failed
```

- **Further description**

The data status definition can be referred to the 4.10 alarm data definition.

4.10 Alarm Data Definition

- **Description**

The alarm data including motion detection, I/O alarm and PIR etc. is defined here. It defined the alarm data format. [Now only motion detection is defined.]

- **Motion Detection**

  - **Date Format Defition**

```
<mdstatus>

    <row>22</row>

    <col>22</col>

    <move>122</move>

    <cell>0,0,0,0,0,0,0,0,0,0,0,0,f0000000,7c00001f,c00001ff,1ff7,1ff7c,1ff7c0,1ff7c00,

    7e00000,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0</cell>

</mdstatus>
```

  - **Description**

row: the row of the full motion detection zone; for example, it's 18 if the sub stream resolution is CIF. And it's 36 if the sub stream resolution is D1.

col: the column of the full motion detection zone; it's 22 if the sub stream resolution is CIF. And it's 44 if the sub stream resolution is D1.

Move: the maximum movement value in the motion detection zone.

cell: the status of the motion detection cells; (Every 4 bytes group, separated by commas, less than 4 bytes to complete 4 bytes (binary data, each bit unit represents the status of a cell, 0: no alarm, 1: alarm)

NOTE:

1. The value of cell is the string which is converted from binary to hexadecimal. 1 byte is 2 hexadecimals string. For example, if the binary of the cell is 0x12345, 0xabcdef, here it should be <cell>12345,abcdef</cell>.

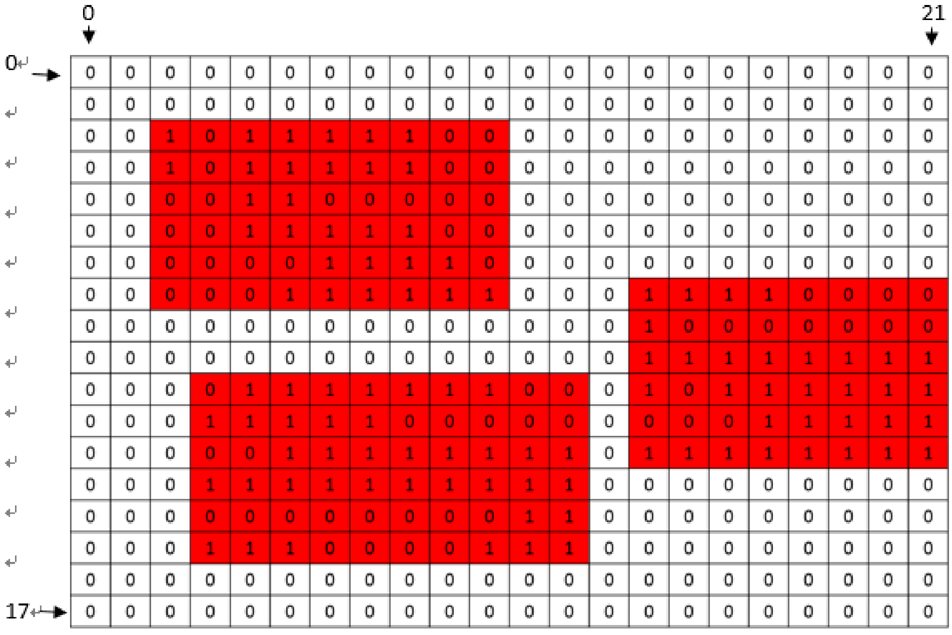
2. The relationship between the total cells with the configured motion detection zone.

The below (22*18 zones) shows the relationship:

The red cells are the configured motion detection zones.

The cell value (value "1" means movement, "0" - no movement) is only applied for the configured motion detection zone (RED ZONE), if there is movement, the cell value is 1, if there is no movement, the cell value is 0. At the same time, the cells which are not in the configured motion zone will not be applied even there is the motion, the cell value will be kept 0.

For example, the cell value in the row No.2 is: 00101111 10000000 00000000



	0																					21
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	0	0	0	0	1	1	1	1	1	1	1	0	0	0	1	0	1	1	1	1	1	1
	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	0	0	0	1	1	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

5 Maintenance

5.1 Device Maintenance

Description

The interface to restart or recovery the device to the factory configuration.

Request URL

```
/action/set?subject=maintain
```

Request Body

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <maintain>
        <type>1</type>
     </maintain>
</request>>
```

Response

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

type: Maintenance Type (0: reboot the device 1: restore the device settings to the factory 2: restore the parameter except the TCP/IP parameters)

5.2 Get Storage Device Information

Description

The interface to get the storage device information like the device status, device name, the total capacity of the storage and the rest capacity.

Request URL

```
/action/get?subject=diskinfo&id=0 [id: index of storage device, 0: the first device, 1: NFS]
```

Request Body

None

Response

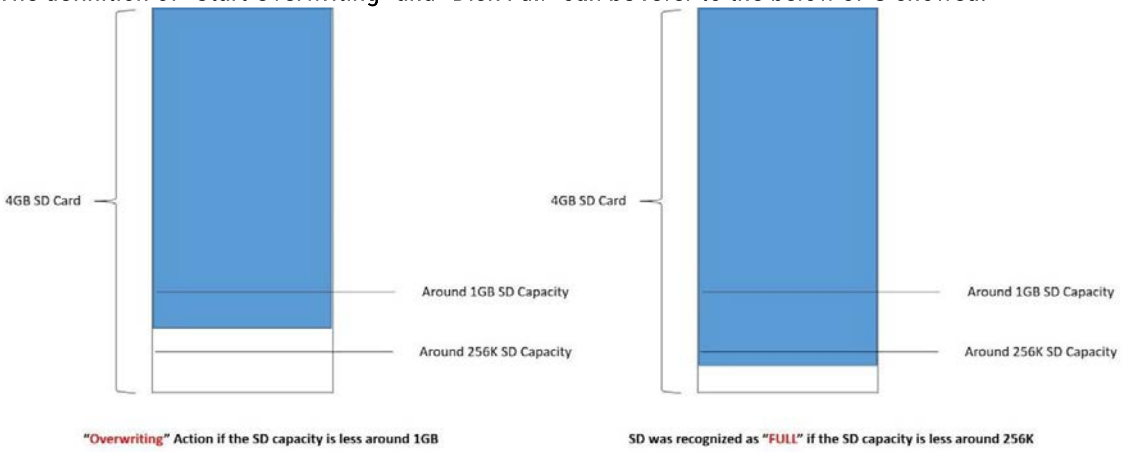
```
  <?xml version="1.0" encoding="utf-8" ?>
- <response>
```

```
    <diskinfo>
            <status>3</status>
             <devname>/dev/disk0</devname>
            <path>/mnt/mmc/</path>
             <size>1024</size>
             <free>1024</free>
      </diskinfo>
</response>
```

Further description

status: Status Value, it’s defined as the below:
bit0: existed or not?   0: NOT, 1: Existed
bit1: if the device is mounted or not? 0: NOT mounted, 1: mounted
bit2: if the device is full? 0: Not Full, 1: Full
bit3: if there is the error to write or read?)   0: No Error, 1: Error

Example: 19: 0001 0011: On overwriting, the Disk is not Full, there is SD card installed.
23: 0001 0111: On overwriting, the Disk is Full, There is SD card installed.
The definition of “Start Overwriting” and “Disk Full” can be refer to the below JPG showed.


4GB SD Card
Around 1GB SD Capacity
Around 256K SD Capacity
4GB SD Card
Around 1GB SD Capacity
Around 256K SD Capacity
“Overwriting” Action if the SD capacity is less around 1GB
SD was recognized as “FULL” if the SD capacity is less around 256K

devname: the storage device name
path: the installation path of the storage device.
size: the total capacity of the storage device, unit: byte.
free: the rest capacity of the storage device, unit: byte.

5.3 Format the storage device

Description

The interface to format the storage device.

Request URL

```
/action/set?subject=diskfmt
```

Request Body

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <diskfmt>
        <disk>0</disk>
        <fmt>0</fmt>
     </diskfmt>
</diskinfo>
```

Response

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

disk: index of the device, 0: the first device.

fmt: format type(0:fat32 1:ext2) ，fat32 is supported only now.
NOTE: 1. Formatting operation will cost a little longer time (the more capacity, the longer time to wait).

5.4 Firmware upgrade

Description

The interface to upgrade the firmware.

Request URL

```
/action/upload?file=firmware
```

Request Body

The firmware file.

Response

```
200: Succeed to Set.

400: Error to Request.

415: Invalid firmware file.

416: Mismatched hardware.
```

Further description

The firmware upload adopts the standard HTTP file uploading technology, for more details, please refer to HTTP file transmission protocols.
The device will be coming into file updating process after the firmware file uploaded. It will take a little long time for the camera to update the firmware, so it’s suggested that the client set the minimum 200 second of the time out.

5.5 Finding the device’s password

Description

The interface is to help the client to find the password. It will back the serial number when using the interface. And the client will send back the serial number to the technical support, the engineer can send out the password to the client using the special tool with this serial number.

Request URL

```
/action/get?subject=findpwd
```

Request Body

No.

Response

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

<response>

     <findpasswd>

<verification>ABCDEFJHIJKLMNOPQRSTUVWXYZ123456</verification>

  </findpasswd>

</response>
```

Further description

verification ： 32 bit verification code.

5.6 Output and Input the configurations file

Description

The client can use this interface to copy the related parameters from one specified camera, and output to one bin file which will be copied to some cameras in batch.

Request URL

Output:

```
/action/export
```

Input:

```
/action/input
```

Request Body

Output: None.

Input: specified BIN file

Response

Output: specified BIN file

Input:

```
200: Successful

400: Error to request

500 ： Failed
```

Further description

1. Export file is using the standard HTTP file download method;
2. Import file is using the standard HTTP file upload method;
3. The device will be reboot after import the file successfully.

5.7 Set and Get the Device Auto Reboot parameters

Description

The interface is to get and set the device auto reboot related parameters.

Request URL

GET:

```
/action/get?subject=autoreboot
```

SET:

```
/action/set?subject=autoreboot
```

Request Body

GET:

None.

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <autoreboot>
        <mode>1</mode>
        <time>25</time>
    </autoreboot>
</request>
```

Response

GET:

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

```
            <mode>1</mode>

            <time>25</time>

        </autoreboot>

</response>
```

SET:

```
200: Successful

400: Error to request

403: without permission

500 ： Failed
```

Further description

1. Mode: the work mode of auto reboot, 0: Disable, 1: Everyday, 2 – 8 : Monday – Sunday;
2. Time: the time of auto reboot, the unit is second;

6 Stream

6.1 Request Audio or Video stream

Description

The interface to request the audio and video stream.

Request URL

```
/action/stream?subject=liveplay&stream=0 [stream: stream type (0:main stream 1: substream)]
```

Request Body

None

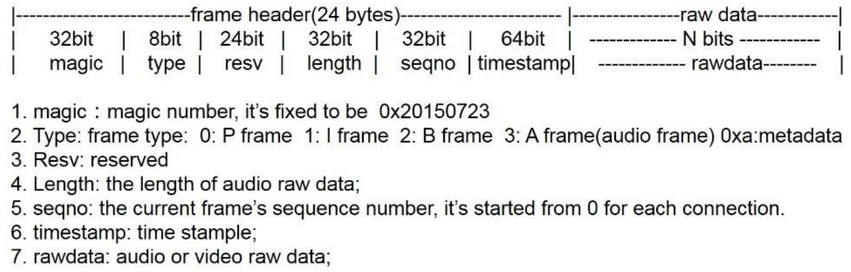
Response

```
200: Succeed to Request

400: Error to Request.

403: No authorized.
```

500: Failed to Set.

Further description

The Procedure of requesting for audio or video stream:
1. Client: Send the request for audio or video stream;
2. Device: return success code "200" after received the request, and then send the data to the client after around 1 second.(The first frame of the data sent to the client is metadata. The client can start the corresponding decoder according to the value of the metadata, the data after the first frame is the audio or video data.)
3. Client: received the returned information, and be waiting for receiving the audio or video data;
4. Client: disconnected, the device release the resource;
NOTE:
1. The field "Connection" of HTTP Head must be "Keep-Alive" when the Client send the request;
2. The audio and video data includes two sections: frame head + audio and video raw data, like the picture in the below:



```
|-------------------------frame header(24 bytes)----------------------- |----------------raw data------------|
|     32bit    |   8bit  |  24bit  |   32bit   |   32bit   |     64bit    |  ------------ N bits ------------   |
|     magic    |   type  |   resv  |   length  |   seqno  | timestamp|   ------------ rawdata--------    |
```

1. magic : magic number, it's fixed to be 0x20150723
2. Type: frame type: 0: P frame 1: I frame 2: B frame 3: A frame(audio frame) 0xa:metadata
3. Resv: reserved
4. Length: the length of audio raw data;
5. seqno: the current frame's sequence number, it's started from 0 for each connection.
6. timestamp: time stample;
7. rawdata: audio or video raw data;

The definition of metadata is like the below:

```
|------------------------------avmetadata(20byte)------------------------------------------|
|----------|-------------video(8bytes)-----------|--------------audio(8bytes)----------------|
|4bit|28bit|16bit|16bit |4bit |6bit| 2bit |20bit|16bit |16bit |4bit |6bit      | 2bit |20bit|
|meta|resv1|width|height|codec|fps |profile|resv2|sample|bitrate|codec|bitwidth|channel|resv3|
```

meta: meta data mask, each bit represents if the corresponding media data is valid or not. (bit0: video bit1: audio)

resv1, resv2, resv3 ： reserved data bit
video.width: the width of the video transmitted
video.height: the height of the video transmitted
video.codec: video codec type（0：h264 1:h265）
video.fps: Frame rate of the video transmitted
video.profile: codec class of the video transmitted (0: base 1:main 2:high)
audio.sample: audio sampling rate of the audio transmitted.
audio.bitrate: bitrate of the audio transmitted. (not used)
audio.codec: audio codec type of the audio transmitted（0：g711u 1:g711a）
audio.bitwidth: audio sampling bit width of the audio transmitted.
audio.channel: audio channel number of the audio transmitted（0: mono channel， 1:stereo）

6.2 Request intercom

Description

The interface to request the talkback or intercom.

Request URL

```
/action/stream?subject=audiotalk
```

Request Body

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <avmetadata>
       <audio>
             <codec>0</codec>
             <sample>8000</sample>
             <bitrate>16</bitrate>
             <bitwidth>16</bitwidth>
             <channel>0</channel>
        <audio>
     </avmetadata>
</request>
```

Response

```
200: Succeed to Request
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

The Procedure of requesting for 2 way speaking:
1. Client: Send the request for speaking;
2. Client: the client will send the audio data to the device after around 1 second when the client received the success code "200 returned from the device for the request for speaking from the client.(The first frame of the data sent to the client is metadata. The client can start the corresponding decoder according to the value of the metadata, the data after the first frame is the audio data.)
3. Client: disconnected, the device release the resource;
NOTE:
1. Only the audio speaking with codec: g711u sample: 8000, bit width: 16 channel: 0) is supported now.
2. The field "Connection" of HTTP Head must be "Keep-Alive" when the Client send the request;

3. Please refer to the definition of the audio data format above.

6.3 Record Searching

Description

The interface to request the record searching.

Request URL

```
/action/stream?subject=recsearch
```

Request Body

Monthly Record searching:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <recsearch>
      <mode>0</mode>
      <chn>1</chn>
      <date>201507</date>
      <type>3</type>
      <stream>3</stream>
     </recsearch>
</request>
```

Daily record searching:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <recsearch>
      <mode>1</mode>
      <chn>1</chn>
      <date>20150724</date>
      <begin>0</begin>
      <end>3600</end>
```

```
        <type>3</type>

        <stream>3</stream>

      </recsearch>

</request>
```

Response

Monthly Record searching:

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

<response>

    <recorddesc>

        <rdatemask>111</rdatemask>

      </recorddesc>

</response>
```

Daily record searching:

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

<request>

        <recorddesc>

            <chn>0<chn>

            <begin>0</begin>

            <end>3600</end>

          <type>1</type>

          <stream>1<stream/>

          <path>/record/record1.avi<path/>

        </recorddesc>

        <recorddesc>

          <chn>0<chn>

          <begin>5000</begin>

            <end>6000</end>

          <type>2</type>

          <stream>2<stream/>

          <path>/record/record1.avi<path/>

        </recorddesc>
```

```
</request>
```

Further description

Monthly Record searching mode:

mode: searching mode(0:monthly 1:daily)

chn: channel number, It's fixed 1 for the IPC. Each bit represents each channel, bit0 ~ bit31 represents channel 1 to channel 31.

date: specified month searching. Format: YYYYMM

type: record Type, each bit represents each record mode(bit0:Timing record   bit1: alarm record)

stream: stream type, each bit represents each stream type(bit0: mainstream bit1:substream)

recorddesc.rdatemask: record data mask, each bit represents if there is the record which meet the searching condition on the day of the month or not, maximum is 31 days.
(bit0: the first day of the month searched, bit1: the second day of the month searched, and so on) ， as example, when you want to search the record in July of 2015, the returned rdatemask is 15(0xf), thus it represents there is the record during July 1st to July 4th, and there is no record other days.

Daily record searching mode:

mode: searching mode (0: monthly 1:daily)

chn: channel number, It's fixed 1 for the IPC. Each bit represents each channel, bit0 ~ bit31 represents channel 1 to channel 31.

date: record date, format YYYYMMDD, DD should not be 0.

begin: beginning time, unit: second;

end: ending time, unit: second;

type: record Type, each bit represents each record mode(bit0:Timing record   bit1: alarm record)

stream: stream type, each bit represents each stream type(bit0: mainstream bit1:substream)

path: the path of the archives.

recorddesc.chn: Channel number, started from 0, it's the first channel. It's fixed 0 for the IPC.

recorddesc.date: Record date, format is YYYYMMMDD, like 20150813.

recorddesc.begin: Starting time, unit is second.

recorddesc.end: Ending time, unit is second.

recorddesc.type: Record Type, 1: Timing record, 2: alarm record.

recorddesc.stream: Record Stream Type 0: mainstream, 1: sub stream.

NOTE:

1. If it daily record searching mode, it will return multiple recsectdesc structure's definition if there are multiple records all of which meet the searched condition.
2. The result of the daily record searched represents the time axis of the record of the searched date.
3. The result of the monthly record searched represents the summary of the record of the searched month, the detailed record should be searched by daily.

6.4 Playback and control

Description

The interface to request the record playback and how to control the playback.

Request URL

```
/action/stream?subject=playback
```

Request Body

Playback:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <playback>
      <chn>0</chn>
      <date>20150724</date>
      <begin>0</begin>
      <end>3600</end>
     </playback>
</request>
```

Control way:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <playctrl>
      <cmd>0</cmd>
      <args>3600</args>
     </playctrl>
</request>
```

Response

```
200: sucess
400 ： error for request
500 ： failed for request
```

Further description

chn: channel number, It's fixed 1 for the IPC.
cmd: the playback control type (0: play 1 ： pause 2: timing 3:play speed)
args: playback control parameters(optional), the definition is like the below:
1. No sense when the playback control type is 0: play, 1:pause.
2. It is timing time, unit is second, when the playback control type is timing.

3. It is the speed value (0: normal speed, 1: faster speed, 2: the fastest speed 3: the slower speed 4: the slowest speed 5: per frame) when the playback control type is play speed.

Playback procedure (similar with play procedure)
1. Client: Send the request for audio or video stream;
2. Device: return success code "200" after received the request, and then send the data to the client after around 1 second. (The first frame of the data sent to the client is metadata. The client can start the corresponding decoder according to the value of the metadata, the data after the first frame is the audio or video data.)
3. Client: received the returned information, and be waiting for receiving the audio or video data;
4. Client: send the playback control to the device.
5. Client: disconnected, the device releases the resource;

NOTE：
1. During playing the video, if the metadata of the current video or audio data is different with that of the last video or audio data, the new metadata will be sent again, and the audio or video data will be sent after then. You need to restart the corresponding decoder in order to play the video or audio with right decoder.

6.5 Download the Archives

Description

The interface is used to download the archives from the storage inside the cameras.

Request URL

```
/action/stream?subject=recdownload
```

Request Body

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

<request>

    <recdownload>

        <path>/record/record.avi</path>

      </recdownload>

</recdownload>
```

Response

```
200: sucess

400 ：error for request
```

```
500 : failed for request
```

Further description

Path: the path of the archives.
Note:
1. Path: it’s the value which is returned by the archives searching;

7 Scheduled Task

7.1 Get and set the scheduled task

Description

The interface to get and set the scheduled task.

Request URL

GET:

```
/action/get?subject=schetask&type=0 [type: task type (0:snapshot 1: recording 2:ftp upload)]
```

SET:

```
/action/set?subject=schetask&type=0
```

Request Body

GET: None SET:

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

<response>

    <schetask>

        <active>0</active>

        <schedule>

            <day>

                <tsection>0-0</tsection>
                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

            </day>

            <day>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

            </day>

            ...

        </schedule>

    </schetask>

</response>
```

Response

GET:

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

<response>

    <schetask>

        <active>0</active>

        <schedule>

            <day>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

                <tsection>0-0</tsection>

            </day>
            <day>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
                <tsection>0-0</tsection>
            </day>
            ...
        </schedule>
    </schetask>
</response>
```

SET:

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

■ Further description

active：work mode(0: Disable 1: 7*24 Hours 2: scheduled)
schedule: scheduled table, 1 week table, there is 6 time segments for each day. Unit: second.
Tsection: Time section, starting time - ending time, for example 0 clock - 1 clock is 0 - 3600.

7.2 Get and set the recording parameters

■ Description

The interface to get and set the recording parameters.

■ Request URL

GET:

```
/action/get?subject=record
```

SET:

```
/action/set?subject=record
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
   <record>
      <stream>1</stream>
      <packsec>1</packsec>
      <presec>1</presec>
      <recycle>1</recycle>
      <path>0</path>
    </record>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
   <record>
      <stream>1</stream>
      <packsec>1</packsec>
      <presec>1</presec>
      <recycle>1</recycle>
      <path>0</path>
    </record>
</response>
```

SET:

```
200: Succeed to Request
```

```
400: Error to Request.

403: No authorized.

500: Failed to Set.
```

Further description

stream: recording stream type ()
packsec: recording packaging time, unit: second, valid data range:[180, 600]
presec: pre-recording time, unit: second, unit: second, valid data range: [0, 3]
recycle: Cycled recording index (0:Disable 1: Enable)
path: recording direction: 0: local recording; 1: NFS

8 PTZ Operation

8.1 PTZ Control

Description

The interface to control the network PTZ cameras including Auto Focus motorized Lens camera Pan, Tilt and Zoom control.

Request URL

```
/action/ptz?subject=ctrl
```

Request Body

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

<request>

      <ptzcmd>

            <cmd>0</cmd>

            <focus>1</focus>

            <zoom>1</zoom>

            <move>

                 <hoir>0</<hoir>

                 <vert>1</<vert>

            </move>

            <preset>

                  <index>1<index>
```

```
                <name>preset1<name>
            </preset>
             <cruise>
                <index>1<index>
                <cruisepoint>
                    <preset>1</preset>
                      <speed>1</speed>
                      <second>1</second>
                </cruisepoint>
                <cruisepoint>
                    <preset>2</preset>
                      <speed>2</speed>
                      <second>5</second>
                </cruisepoint>
                      ....
                <cruisepoint>
                    <preset>8</preset>
                      <speed>2</speed>
                      <second>5</second>
                </cruisepoint>
            </cruise>
      </ptzcmd>
</request>
```

Response

```
200: Succeed to Set.
400: Error to Request.
403: No authorized.
500: Failed to Set.
```

Further description

CMD : Command Type, CMD_PTZ_MOVE_HOR and CMD_PTZ_VERT can be used in combination.

```
   CMD_PTZ_STOP                = 0x000,    //STOP;
  CMD_PTZ_MOVE_HORI          =0x001,     // horizontal Moving;
  CMD_PTZ_MOVE_VERT          =0x002,     //vertical Moving;
  CMD_PTZ_FOCUS               =0x004,     //Focusing;
```

```
CMD_PTZ_ZOOM                 =0x008,      //Zooming;
CMD_PTZ_RSET                 =0x1000,     //Reset;
CMD_PTZ_GOTO_PREST           =0x1001,     //Call Preset;
CMD_PTZ_SET_PRESET           =0x1002,     //Set Preset;
CMD_PTZ_DEL_PRESET           =0x1003,     //Delete Preset;
CMD_PTZ_GOTO_HOME            =0x1004,     //Call HOMEPreset;
CMD_PTZ_AUTOSCAN             =0x1005,     //Auto Scanning, it's invalid currently.
CMD_PTZ_IRIS                 =0x1006, //Auto Iris, it's invalid currently.
CMD_PTZ_SET_CRUISE           =0x1007,     //To set the cruise path;
CMD_PTZ_DEL_CRUISE           =0x1008,     //To delete the cruise path;
CMD_PTZ_CALL_CRUISE          =0x1009,     //Call the cruise path;

CMD_PTZ_EXT_ZMODE            =20000000, //User defined, Focus Mode
CMD_PTZ_EXT_INIT                        //User defined, Initialize
```

Focus:

Focus, it's valid when CMD_PTZ_FOCUS is taken effective.
0: Far, 1: Near;

Zoom:

Zooming, it's valid when CMS_PTZ_ZOOM is taken effective
0: wide 1: Tele

Move.hori:

Horizontal Moving, it is valid when CMD_PTZ_MOVE_HORI is taken effective
0: left 1: right

Move.vert:

Vertical moving. It's valid when CMD_PTZ_VERT is taken effective
0: up 1: down

Preset: Preset parameter, it's valid when CMD_PTZ_GOTO_PRESET, CMD_PTZ_SET_PRESET, CMD_PTZ_DEL_PRESET is taken effective;
Preset.index: it is the preset position index number, it is unique, the value range is [1,16]
Preset.name: it's the name of the preset, it cannot be empty;

Cruise: Cruise parameters, it's valid when CMD_PTZ_SET_CRUISE, CMD_PTZ_DEL_CRUISE, CMD_PTZ_CALL_CRUISE are taken effective;
Cruise.index, the index of the cruise path, it's fixed 1 as default;
Cruisepoint.preset: the presets of the cruise path, the value range is [1,16]
Cruisepoint.speed: the speed of moving to the next preset of the cruise, the value range is [1,5]. The bigger of the value, the quicker of the speed.
Cruisepoint.second. The stay time of each preset during cruise, the unit is second, the value range is [1,300]

Note:

1. Motorized lens cameras only support CMD_PTZ_FOCUS, CMD_PTZ_ZOOM, CMD_PTZ_EXT_INIT; CMD_PTZ_EXT_INIT is used to initiate the Auto Focus status.

8.2 Get and set the PTZ parameters

■ Description

The interface to get and set the PTZ parameters.

Request URL

GET:

```
/action/get?subject=ptz
```

SET:

```
/action/set?subject=ptz
```

Request Body

GET: None

SET:

```
<?xml version="1.0" encoding="utf-8"?>
<request>
    <ptz>
        <speed>1</speed>
        <iris>1</iris>
        <light>1</light>
        <wiper>1</wiper>
        <zmode>1</zmode>
        <addr>1</addr>
        <protocol>1</protocol>
        <serial>
            <baudrate>2400</baudrate>
            <databit>8</databit>
            <stopbit>1</stopbit>
            <parity>0</parity>
            <flowctrl>0</flowctrl>
        </serial>
    </ptz>
</request>
```

Response

GET:

```
<?xml version="1.0" encoding="utf-8"?>
<response>
    <ptz>
        <speed>1</speed>
        <iris>1</iris>
        <light>1</light>
        <wiper>1</wiper>
        <zmode>1</zmode>
        <addr>1</addr>
        <protocol>1</protocol>
        <serial>
            <baudrate>2400</baudrate>
            <databit>8</databit>
            <stopbit>1</stopbit>
            <parity>0</parity>
            <flowctrl>0</flowctrl>
        </serial>
        <preset>
             <pname>Preset0</pname>
             <pname>Preset1</pname>
             <pname>Preset2</pname>
                     ...
             <pname>Preset127</pname>
         </preset>
        <cruise>
            <cruisepoint>
               <preset>1</preset>
                <speed>1</speed>
                <second>1</second>
            </cruisepoint>
            <cruisepoint>
               <preset>2</preset>
```

```
                <speed>2</speed>

                <second>5</second>

            </cruisepoint>

                ....

            <cruisepoint>

               <preset>8</preset>

                <speed>2</speed>

                <second>5</second>

            </cruisepoint>

        </cruise>

    </ptz>

</response>
```

SET:

```
200: Succeed to Request

400: Error to Request.

403: No authorized.

500: Failed to Set.
```

■ Further description

speed: PTZ moving Speed, value rang is [0,5] , the bigger the value is, the quicker the speed is;
iris : Auto Iris, 0: Close, 1: Open (Option)
light : Light, 0: Close, 1: Open (Option)
wiper : Wiper, 0: Close, 1:Open (Option)
zmode : Focus Mode; (option)
protocol: type of the protocols, 1: PELCO-D, 2: PELCO-P;
addr: Address value, the value range is [1,255]

serial.baudrate: baudrate, the valid value is 2400/4800/9600/57600/19200/115200.
Serial.databit: date bit value, the valid value is 6/7/8.
Serial.stop: stop bit, valid value is 1/2
Serial.parity: the parity bit, 0: none, 1: odd, 2. Even
Serial.flowctrl: flow control bit, 0: disable 1: enable

Preset.name: the preset name, maximum 128 Presets can be set. If it’s empty, it means the preset is invalid;
Cruise: Cruise path, maximum 3 cruise paths, each path supports maximum 32 presets.
Cruisepoint.preset: the preset of the cruise, the value range is [1,16]
Cruisepoint.speed: the speed of moving to the next preset of the cruise, the value range is [1,5]. The bigger of the value, the quicker of the speed.

Cruisepoint.second. The stay time of each preset during cruise, the unit is second, the value range is [1,300]

Note:

1. Preset can only be GET. If Preset wants to be set, please use /action/ptz?subject=ctrl to set and delete it.
2. Cruise can only be GET, if Cruise wants to be set, please use /action/ptz?subject=ctrl to set and delete it.

9 HTTP CGI related with JPEG

HTTP URL for the snapshot JPEG ：

```
http://IP address:port/action/snap?cam=0&user=user&pwd=password;
```

HTTP Request for the URL of motion JPEG (1FPS):

```
http://IP address:port/action/stream?subject=mjpeg&user=user&pwd=password;
```

10 HTTP Request the LOG

HTTP URL for the request of the LOG from the camera ：

```
http://IP address: port/action/log
```

11 HTTP CGI for the AI & Intelligent Video Analytics of the cameras

11.1 NOTICE

This chapter describes the specifications of the CGI interface specialized in IP cameras’ intelligent video analytics features.

11.2 GET and SET Global Parameters for the feature

11.2.1 Parameters Description

The related parameters are defined like the below:

width: the width of the image processed
height: the height of the image processed.
fps: the frame rate of the video processed, the valid value is (5,10,15)
bmin: the minimum size of the object detected, the format is (left, top, right, bottom), the unit is percentage.
bmax: the maximum size of the object detected, the format is (left, top, right, bottom), the unit is percentage.

Note:

1) both width and height value are read only parameters, it cannot be SET.
2) FPS value will impact the accuracy of the analytics result. The bigger of the value, the better accuracy, but it will bring the CPU load increasing, the performance will be impacted.
3) bmin should be smaller than bmax, the value will impact the sensitivity of the analytics, the reasonable value will take the better sensitivity on the reasonable CPU load.

11.2.2 GET Global Parameters for the feature

Request URL	/action/get?subject=vaglobal
Request Body	NONE

Response	<?xml version="1.0" encoding="utf-8"?>
	<response>
	    <vaglobal>
	        <width>320</width>
	        <height>180</height>
	        <fps>5</fps>
	        <bmin>0,0,5,5</bmin>
	        <bmax>0,0,50,50</bmax>
	    </vaglobal>
	</response>

11.2.3 SET Global Parameters for the feature

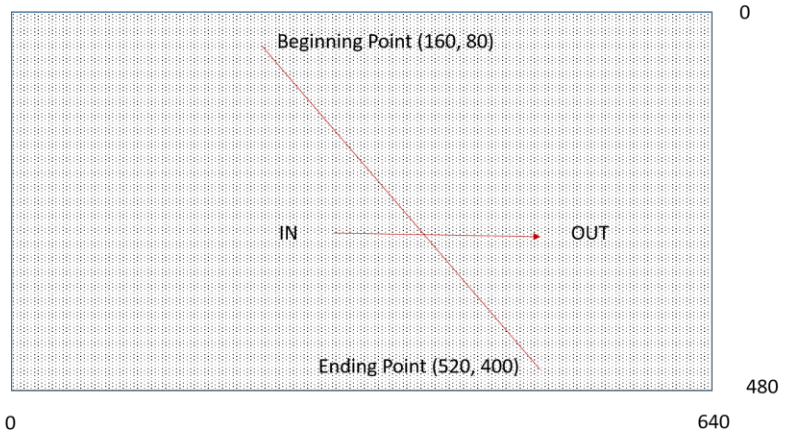
Request URL	/action/set?subject=vaglobal
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <vaglobal>

	<width>320</width> <height>180</height> <fps>10</fps> <bmin>0,0,5,5</bmin> <bmax>0,0,50,50</bmax> </vaglobal> </request>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

11.3 GET and SET People Counting Parameters

11.3.1 Parameters Description

The related parameters are defined like the below:
enable: enable or disable the people counting, 0: disable, 1: enable
line.begin: the beginning coordinate of the boundary of the zone, format: (x, y);
line.end: the ending coordinate of the boundary of the zone, format: (x, y) Note:
the coordinate value is the relative value which is percentage value of the zone size which need people counting.
For example, if the image of the zone resolution is 640 * 480, and the beginning coordinate was wanted to be set from (320, 240), thus the line.begin value should be (50, 50).
Below is the value of the line.begin and line.end calculated example.



On the above pictures shown, the line.begin value is (25,17), line.end value is (81,83)

11.3.2 GET Line Parameters of People Counting

Request URL	/action/get?subject=counter
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <counter> <enable>1</enable> <line> <begin>25,17</begin> <end>81,83</end> </line> </counter> </response>

11.3.3 SET Line Parameters of People Counting

Request URL	/action/set?subject=counter
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <counter> <enable>1</enable> <line> <begin>25,17</begin> <end>85,83</end> </line> </counter> </request>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

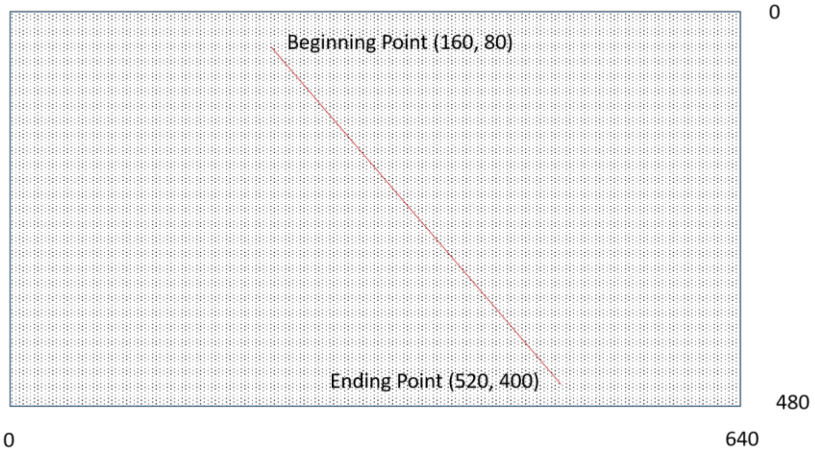
11.4 GET and SET Line Crossing Parameters

11.4.1 Parameters Description

The related parameters are defined like the below:
enable: enable or disable the line crossing detection, 0: disable, 1: enable
line.begin: the beginning coordinate of the detected line, format: (x, y);
line.end: the ending coordinate of the detected line, format: (x, y)
sensitivity: the detection sensitivity value, its range is [0, 4]. The bigger of the value, the more sensitive.
direction: the crossing detection direction, 0: A to B; 1: B to A 2: A <->B;
scene: the application scenes, 0: indoor; 1: outdoor;
blink: enable blink or not when there is detection. 0: disable; 1: enable.

Note:

1) Enable: it can only be gotten, cannot be set. If to set this parameter, please use the api: 4.1 Get and Set Alarm Parameters
2) The coordinate value is the relative value which is percentage value of the crossing line.
3) For example, if the image of the zone resolution is 640 * 480, and the beginning coordinate was wanted to be set from (320, 240), thus the line.begin value should be (50, 50).
4) Below is the value of the line.begin and line.end calculated example.



On the above pictures shown, the line.begin value is (25,17), line.end value is (81,83)

11.4.2 GET Line Crossing Parameters

Request URL	/action/get?subject=crossline
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <crossline> <enable>1</enable>

	<line> <begin>20,30</begin> <end>60,30</end> </line> <sensitivity>2</sensitivity> <direction>0</direction> <scene>0</scene> <blink>1</blink> </crossline> </response>

11.4.3 SET Line Crossing Parameters

Request URL	/action/set?subject=vaglobal
Request Body	<?xml version="1.0" encoding="utf-8"?> <response> <crossline> <enable>1</enable> <line> <begin>20,30</begin> <end>60,30</end> </line> <sensitivity>2</sensitivity> <direction>0</direction> <scene>0</scene> <blink>1</blink> </crossline> </response>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

11.5 GET and SET Intrusion Parameters

11.5.1 Parameters Description

The related parameters are defined like the below:

enable: enable or disable intrusion detection, 0: disable, 1: enable
scene: the application scenes, 0: indoor; 1: outdoor;
sensitivity: the detection sensitivity value, its range is [0, 4]. The bigger of the value, the more sensitive.
direction: intrusion detection direction. 0: enter; 1: Leave; 2: both;
blink: enable blink or not when there is detection. 0: disable; 1: enable.

areamask.row: the value of the raw of the macro zone in intrusion detection region.
areamask.col: the value of the column of the macro zone in intrusion detection region.
Areamask.mask: the mask value of the macro zone in the intrusion detection region.

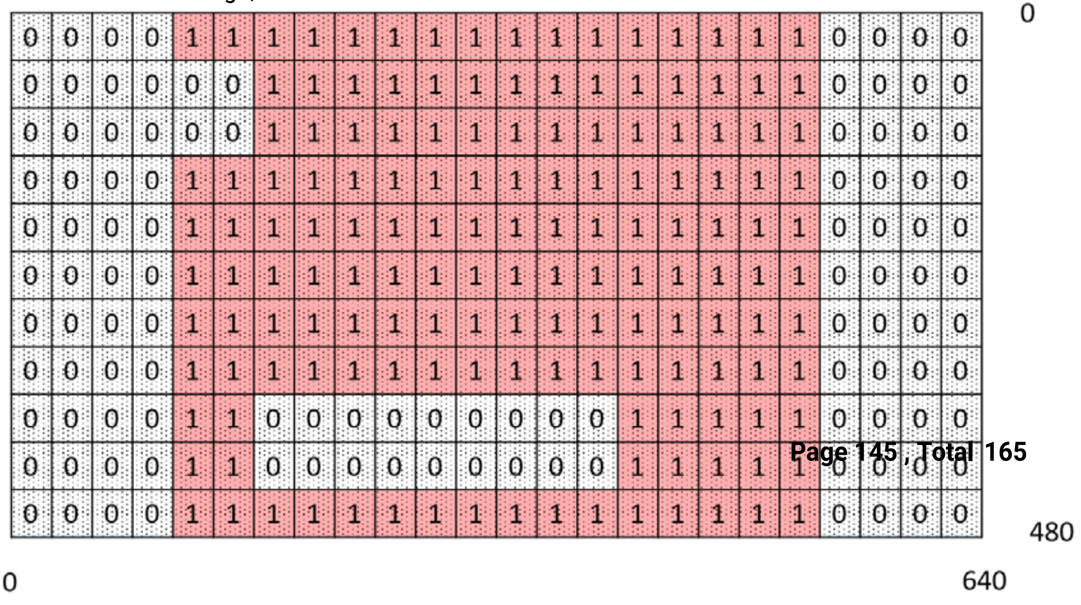
polygon.point: The four vertex coordinates of the invading area are in turn the upper left, the upper right, the lower right, the lower left, and the percentage of coordinates in units.

NOTE:

1) Enable: it can only be gotten, cannot be set. If to set this parameter, please use the api: 4.1 Get and Set Alarm Parameters.
2) Intrusion Region: the intrusion region is full size of the image which can be divided into several (row * col) detection macro zones, each macro zone can be set separately to be valid or invalid intrusion zone.
3) The value of area.mask identify if the macro zone is valid intrusion zone, 1: YES, 0: NO. Each bit represents each macro.
4) The format of areamask.mask is several groups which was built by every 4 bytes which is shown by hexadecimal strings. If less than 4 bytes, 0 will be alignment. Each group should be separated by ",".
5) Intrusion area can be described in two ways, one is areamsk, the other is polygon. Different models may be described in different ways. Please take the actual way as the standard. For one type of intrusion detection, the region can only be described in one way, but not in both ways.

Example: Area mask:

The red colored zone is the valid intrusion zones, the macro zone was identified: 1;
For the above image, the value will be like the below:



0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0

areamask.row : 11
areamask.col: 24
areamask.mask: 0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0

11.5.2 GET Intrusion Parameters

Request URL	/action/get?subject=intrusion
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <instrusion> <enable>1</enable> <scene>0</scene> <sensitivity>2</sensitivity> <direction>0</direction> <blink>1</blink> <areamask> <row>16</row> <col>12</col> <mask>ffffffff,fffffff,ffffffff</mask> </areamask> <polygon> <point>26,24</point> <point>60,33</point> <point>65,63</point> <point>42,69</point> </polygon> </instrusion> </response>

11.5.3 SET Intrusion Parameters

Request URL	/action/set?subject=intrusion
Request Body	<?xml version="1.0" encoding="utf-8"?> <response> <instrusion>

	<enable>1</enable> <scene>0</scene> <sensitivity>2</sensitivity> <direction>0</direction> <blink>1</blink> <areamask> <row>16</row> <col>12</col> <mask>ffffffff,fffffff,ffffffff</mask> </areamask> <polygon> <point>26,24</point> <point>60,33</point> <point>65,63</point> <point>42,69</point> </polygon> </instrusion> </response>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

11.6 GET and SET Human Detection and Face Detection

11.6.1 Parameters Description

The related parameters are defined like the below:
Person: enable or disable human/person detection, 0: disable, 1: enable
Face.active: enable or disable face detection, 0: disable, 1: enable
Face.confidence: the confidence value, value range: [0, 100]
Face.fsize: the size of the face, the value is (5,15,20);
Face.roi: the zone which can detect the face, the format is (left, top, right, bottom), the unit is percentage;

Note:

1) Human detection is now disabled.

2) Because of the limited performance of the camera, now the others features will be disabled when the face detection feature is enabled.
3) Starting face detection will take much higher CPU load;
4) The face size can be adjusted according to the distance of the camera with the face, generally the longer distance of the face, the smaller value of the face, but the CPU load will be higher.
5) To set the face detection zone (ROI) can lower the CPU load much. Generally, the size of the zone is not bigger than 60% of the image. The bigger size of the zone, the much higher CPU load.

11.6.2 GET Human and Face Detection Parameters

Request URL	/action/get?subject=human
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <human> <person>1</person> <face> <active>1</active> <confidence>50</confidence> <fsize>1</fsize> <roi>10,10,50,30</roi> </face> </human> </response>

11.6.3 SET Human and Face Detection Parameters

Request URL	/action/set?subject=human
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <human> <person>1</person> <face> <active>1</active> <confidence>50</confidence> <fsize>1</fsize> <roi>10,10,50,30</roi> </face>

	</human> </request>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

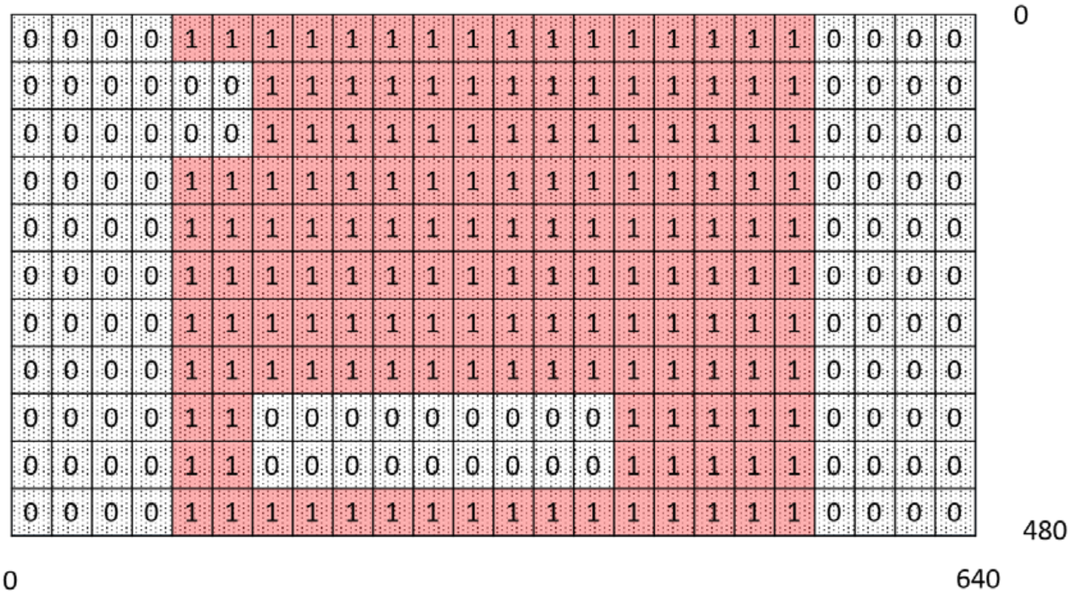
11.7 GET and SET Object Left and Removed Detection

11.7.1 Parameters Description

The related parameters are defined like the below:
left: enable or disable object left detection, 0: disable, 1: enable
removed: enable or disable object removed detection, 0: disable, 1: enable
areamask.row: the value of the raw of the macro zone in detection region.
areamask.col: the value of the column of the macro zone in detection region.
areamask.mask: the mask value of the macro zone in the detection region.

NOTE:

1) Detection Region: the detection region is full size of the image which can be divided into several (row * col) detection macro zones, each macro zone can be set separately to be valid or invalid detection zone.
2) The value of area.mask identify if the macro zone is valid detection zone, 1: YES, 0: NO. Each bit represents each macro.
3) The format of areamask.mask is several groups which was built by every 4 bytes which is shown by hexadecimal strings. If less than 4 bytes, 0 will be alignment. Each group should be separated by ",".
4) Example like the below:



0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0

The red colored zone is the valid detection zones, the macro zone was identified: 1;
For the above image, the value will be like the below:
areamask.row : 11
areamask.col: 24
areamask.mask: 0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0

11.7.2 GET Object Left and RemovedDetection

Request URL	/action/get?subject=leftremoved
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <leftremoved> <left>1</left> <removed>1</removed> <areamask> <row>11</row> <col>24</col> <mask>0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0</mask> </areamask> </leftremoved> </response>

11.7.3 SET Object Left and RemovedDetection

Request URL	/action/set?subject=leftremoved
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <leftremoved> <left>1</left> <removed>1</removed> <areamask> <row>11</row> <col>24</col> <mask>0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0</mask> </areamask> </leftremoved> </request>

Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

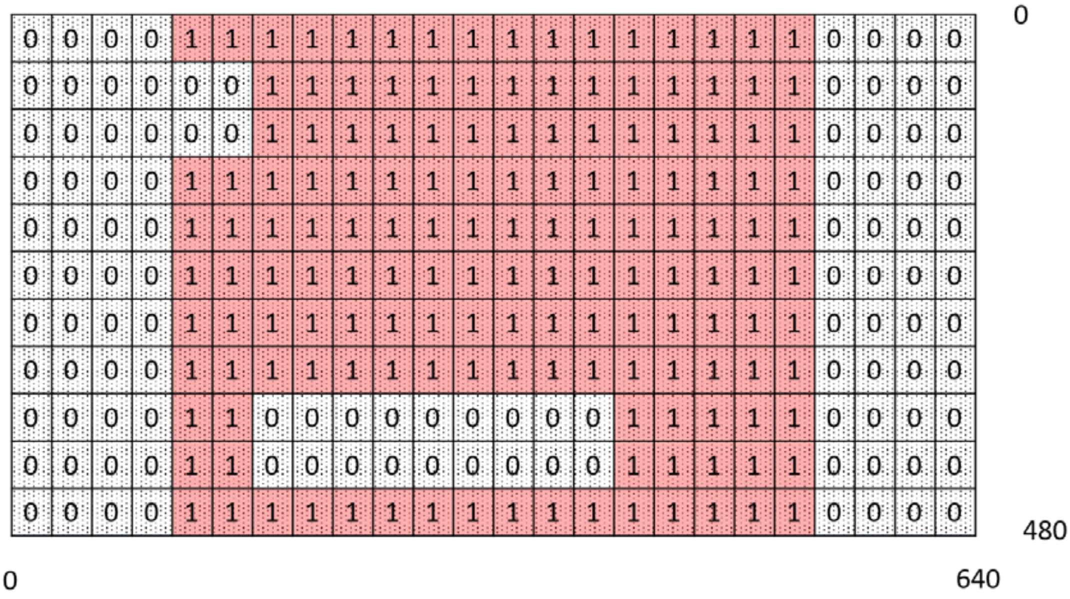
11.8 GET and SET Loitering Detection

11.8.1 Parameters Description

The related parameters are defined like the below:
enable: enable or disable loitering detection, 0: disable, 1: enable
second: the minimum loitering time of the object stayed in the detection zone. Unit: second, the valid value: (5,10,15)
areamask.row: the value of the raw of the macro zone in detection region.
areamask.col: the value of the column of the macro zone in detection region.
areamask.mask: the mask value of the macro zone in the detection region.

NOTE:

1) Detection Region: the detection region is full size of the image which can be divided into several (row * col) detection macro zones, each macro zone can be set separately to be valid or invalid detection zone.
2) The value of area.mask identify if the macro zone is valid detection zone, 1: YES, 0: NO. Each bit represents each macro.
3) The format of areamask.mask is several groups which was built by every 4 bytes which is shown by hexadecimal strings. If less than 4 bytes, 0 will be alignment. Each group should be separated by ",".
4) Example like the below:



0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0

The red colored zone is the valid detection zones, the macro zone was identified: 1;
For the above image, the value will be like the below:

areamask.row : 11

areamask.col: 24
areamask.mask: 0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0

11.8.2 GET Loitering Detection

Request URL	/action/get?subject=loitering
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <loitering> <enable>1</enable> <second>5</second> <areamask> <row>11</row> <col>24</col> <mask>0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0</mask> </areamask> </loitering> </response>

11.8.3 SET Loitering Detection

Request URL	/action/set?subject=loitering
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <loitering> <enable>1</enable> <second>5</second> <areamask> <row>11</row> <col>24</col> <mask>0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0</mask> </areamask> </loitering> </request>

Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

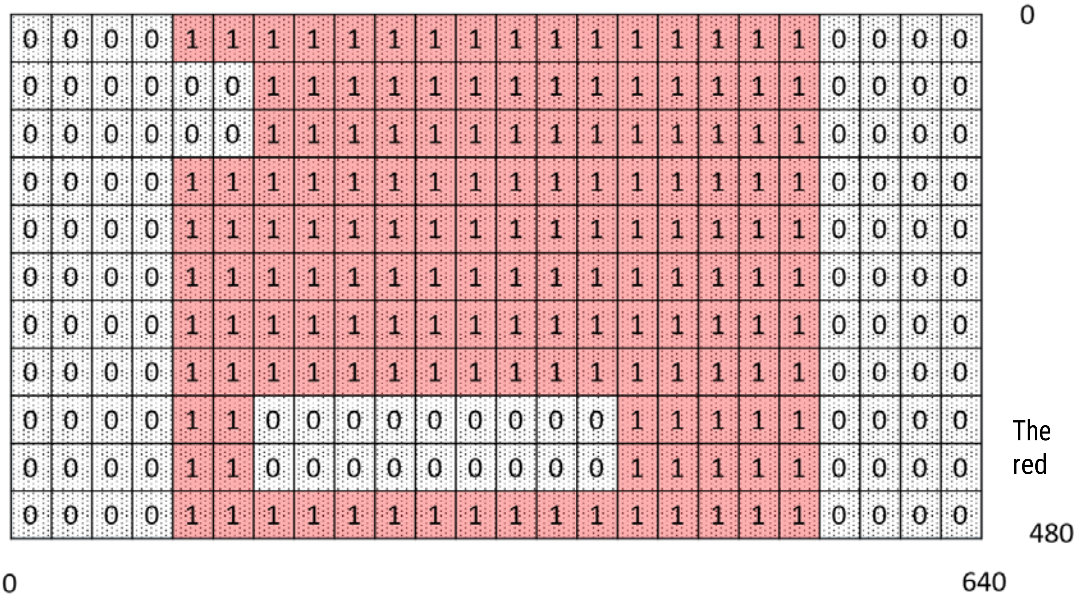
11.9 GET and SET Heatmap Detection

11.9.1 Parameters Description

The related parameters are defined like the below:
enable: enable or disable heatmap detection, 0: disable, 1: enable
second: the minimum time of the object stayed in the detection zone. Unit: second, the valid value: (5,10,15)
areamask.row: the value of the raw of the macro zone in detection region.
areamask.col: the value of the column of the macro zone in detection region.
areamask.mask: the mask value of the macro zone in the detection region.

NOTE:

1) Detection Region: the detection region is full size of the image which can be divided into several (row * col) detection macro zones, each macro zone can be set separately to be valid or invalid detection zone.
2) The value of area.mask identify if the macro zone is valid detection zone, 1: YES, 0: NO. Each bit represents each macro.
3) The format of areamask.mask is several groups which was built by every 4 bytes which is shown by hexadecimal strings. If less than 4 bytes, 0 will be alignment. Each group should be separated by “,”.
4) Example like the below:



0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0

The red colored zone is the valid detection zones, the macro zone was identified: 1;

For the above image, the value will be like the below:
areamask.row : 11
areamask.col: 24
areamask.mask: 0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0

11.9.2 2.8.2 GET Heatmap Detection

Request URL	/action/get?subject=heatmap
Request Body	NONE

Response	<?xml version="1.0" encoding="utf-8"?>
	<response>
	        <heatmap>
	                <enable>1</enable>
	                <second>5</second>
	<areamask>
	                      <row>11</row>
	                      <col>24</col>
	<mask>0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0</mask>
	                  </areamask>
	        </heatmap>
	</response>

11.9.3 SET Heatmap Detection

Request URL	/action/set?subject=heatmap

Request Body	<?xml version="1.0" encoding="utf-8"?>
	<request>
	        <heatmap>
	                <enable>1</enable>
	                <second>5</second>
	<areamask>
	                      <row>11</row>
	                      <col>24</col>
	<mask>0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0</mask>
	</areamask>
	        </heatmap>
	</request>

Response	200: Succeed in Set

	400: Error of Request 403: No Right to Set 500: Failed to Set

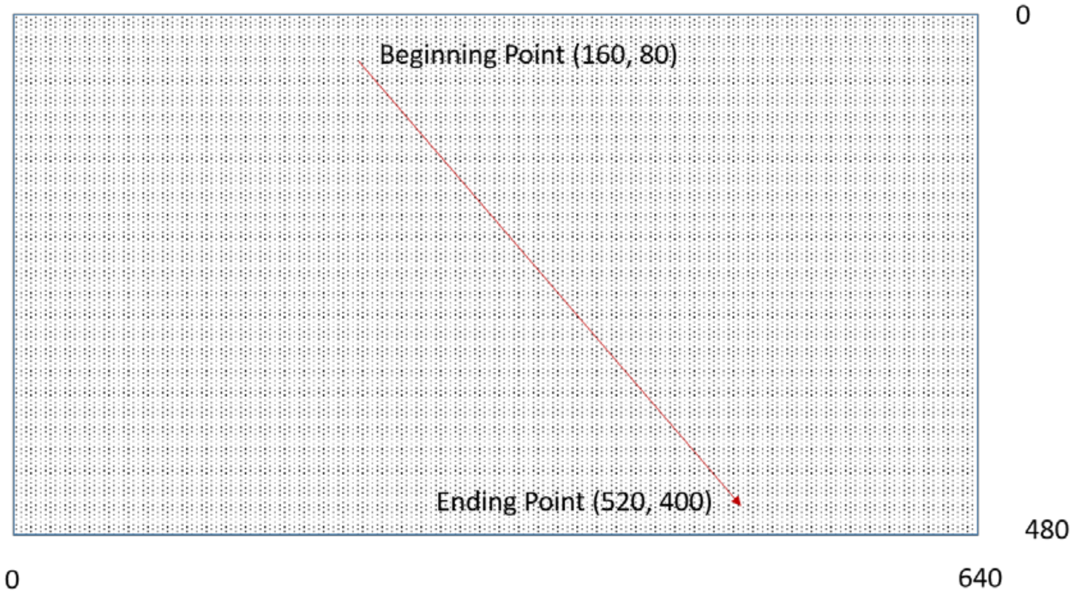
11.10 GET and SET Wrong Direction Detection Parameters

11.10.1 Parameters Description

The related parameters are defined like the below:
enable: enable or disable the wrong direction detection, 0: disable, 1: enable
line.begin: the beginning coordinate of the direction, format: (x, y);
line.end: the ending coordinate of the direction, format: (x, y)

Note:

1) The coordinate value is the relative value which is percentage value of the zone size which need people counting.
2) For example, if the image of the zone resolution is 640 * 480, and the beginning coordinate was wanted to be set from (320, 240), thus the line.begin value should be (50, 50).
3) Below is the value of the line.begin and line.end calculated example.



On the above pictures shown, the line.begin value is (25,17), line.end value is (81,83).

11.10.2 GET the Wrong Direction Detection Parameters

Request URL	/action/get?subject=wrongdir
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?>

	<response> <wrongdir> <enable>1</enable> <line> <begin>25,17</begin> <end>81,83</end> </line> </wrongdir> </response>

11.10.3 SET the Wrong Direction Detection Parameters

Request URL	/action/set?subject=wrongdir
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <wrongdir> <enable>1</enable> <line> <begin>25,17</begin> <end>85,83</end> </line> </wrongdir> </request>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

11.11 The interface to Manage IVA

11.11.1 Parameters Description

The related parameters are defined like the below:
counter: RESET the counting result of the people counting, 0: NO, 1: YES
heatmap: RESET the statistics result of the heatmap counting, 0: NO, 1: YES

11.11.2 The interface to manage IVA

Request URL	/action/set?subject=vactrl
Request Body	NONE

Response	<?xml version="1.0" encoding="utf-8"?>
	<request>
	    <vactrl>
	        <reset>
	            <counter>1</counter>
	            <heatmap>1</heatmap>
	        </reset>
	    </vactrl>
	</request>

11.12 GET the Result of IVA

11.12.1 Parameters Description

The related parameters are defined like the below:
lseqno: the sequence number of the latest triggered event.
vaevent.id: ID number of the triggered event
vaevent.etype: the type of the triggered event: 1, Object Left; 2, Object Removed; 3, Crossing Line; 4, Intrusion; 5, Loitering; 6, Wrong Direction Way
vaevent.time: the triggered time of the event, 20160708T162004 means it's the time: Year 2016, Month: 07, Day: 08, Hour: 16, Minute: 20, Second: 04
counter.in: the quantity of the object IN;
counter.out: the quantity of the object OUT;
heatmap.count: the statistics result of the heatmap.
Note:

1) 1. If there are many events which are happened at the same time, thus several "vaevent" will be returned, and all of the "lseqno" are valid.
2) 2. If there is no any new event triggered, there will be no any "vaevent" and "lseqno" returned any more.
3) 3. Upon getting the events, the "last" value should be set in the request URL. It means that the current "last" value is the value of the last returned and valid "lseqno". If it's the first time to get, the value of "last" can be set "-1";

11.12.2 GET the Result of IVA

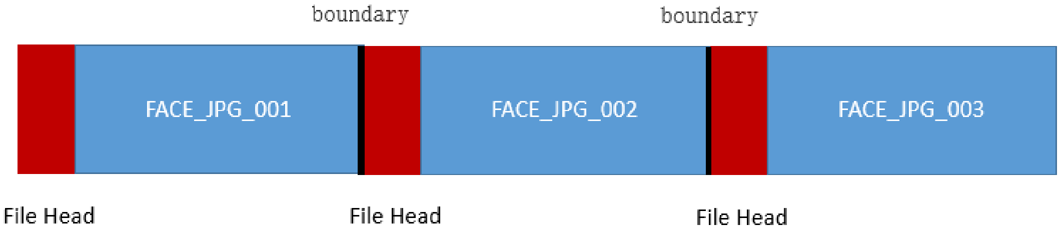
Request URL	/action/get?subject=varesult&last=-1
Request Body	last: the sequence number of the current event got, if it's -1, it means that it's to get all of the current event list.

Response	<?xml version="1.0" encoding="utf-8"?> <request> <varesult> <lseqno>1</lseqno> <vaevent> <id>1</id> <etype>0</etype> <time>20160204T120802</time> </vaevent> <vaevent> <id></id> <etype></etype> <time>20160204T120802</time> </vaevent> ...... <counter> <in>10</in> <out>10</out> </counter> <heatmap> <count>10</count> </heatmap> </varesult> </request>

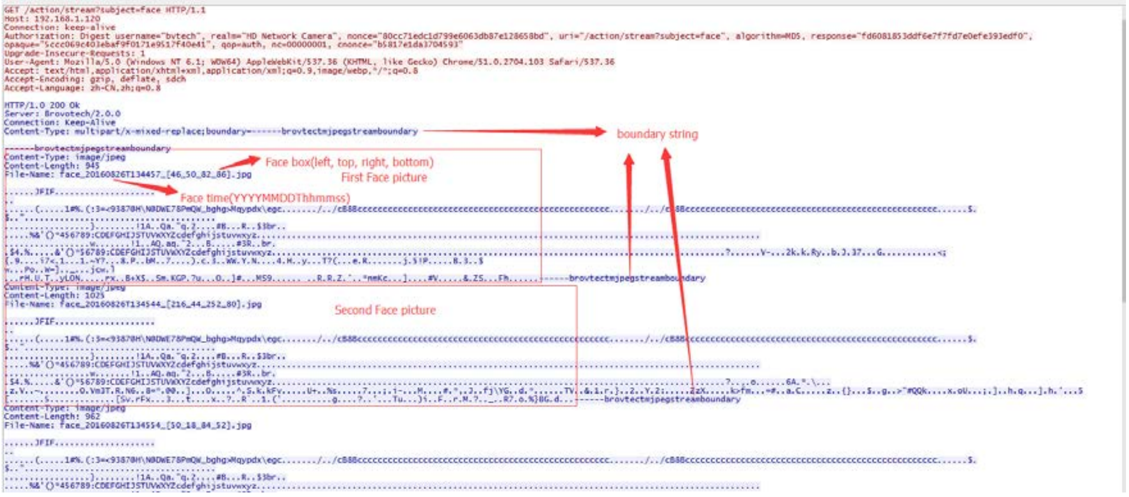
11.13 GET the Snapshot of the detected Face

11.13.1 Parameters Description

The standard Motion JPEG Stream will be responded when ask the HTTP request.
These images sending is using the standard MJPEG-Streamer technology, and there is the images stream sending from the camera’s definition:



The boundary stream between the images: brovotechmjpegstreamboundary which is the string to show SOI (start of Image) or EOI (end of image)
File Head Definition:
File Type: image/jpeg
File-Length:
File-Name: face_20160826T134457_[46_50_82_86].jpg
20160826T134457: the image snapshotted time: YYYYMMDDThhmmss
[46_50_82_86]: the line and columns of the image in the full picture: lef_top_right_bottom
Here is the example response information if you ask the request:
HTTP/1.0 200 ok
Server: Brovotech/2.0.0
Connection: Keep-Alive
Content-Type:multipart/x-mixed-replace;boundary=------brovotectmjpegstreamboundary
--------------------------brovotectmjpegstreamboundary----------
Content-Type: image/jpeg
Content-Length:945
File-Name: face_20160826T134457_[46_50_82_86].jpg
…………JFIF……………………………………………………..
The first face picture



```
GET /action/stream?subject=face HTTP/1.1
Host: 192.168.1.120
Connection: keep-alive
Authorization: Digest username="bvtech", realm="HD Network Camera", nonce="80cc71edc1d799e6063db87e128658bd", uri="/action/stream?subject=face", algorithm=MD5, response="fd6081853ddf6e7f7fd7e0efe393edf0",
opaque="5ccc069c401ebaf9f0171e9517f40e41", qop=auth, nc=00000001, cnonce="b5817e1da3704593"
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/51.0.2704.103 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
Accept-Encoding: gzip, deflate, sdch
Accept-Language: zh-CN,zh;q=0.8

HTTP/1.0 200 Ok
Server: Brovotech/2.0.0
Connection: Keep-Alive
Content-Type: multipart/x-mixed-replace;boundary=------brovtectmjpegstreamboundary

------brovtectmjpegstreamboundary
Content-Type: image/jpeg
Content-Length: 945
File-Name: face_20160826T134457_[46_50_82_86].jpg

......JFIF.....................
..
......(.....1#%.(:3=<93870H\N8DWE78PmQW_bghg>Mqypdx\egc......./../cB8Bcccccccccccccccccccccccccccccccccccccccccccc......./../cB8Bcccccccccccccccccccccccccccccccccccccccccccccc......$.
$.."...................................
..................}........!1A..Qa."q.2....#B...R..$3br..
.....%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.................................................................
..................w.......!1..AQ.aq."2...B......#3R..br.
.$4.%.....&'()*56789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz...................................................?......V-...2k.k.Ry..b.J.37...G...........<;
(.9....!7<.1...1.-Y7...8.P..bM..7....).c.3..WW.Y.N....4.H..y...T7(...e.R.......j.$!P.....B.3..$
n...Po..W=]..._...jcw.]
...rH.U.T..yLON.....rx..B+X5..Sm.KGP.7u...O..]#...M59.........R.R.Z.`..*nmKc...]....#V.....&.Z5...Fh......------brovtectmjpegstreamboundary
Content-Type: image/jpeg
Content-Length: 1025
File-Name: face_20160826T134544_[216_44_252_80].jpg

......JFIF.....................
..
......(.....1#%.(:3=<93870H\N8DWE78PmQW_bghg>Mqypdx\egc......./../cB8Bcccccccccccccccccccccccccccccccccccccccccccccc......./../cB8Bcccccccccccccccccccccccccccccccccccccccccccccc......$.
$.."...................................
..................}........!1A..Qa."q.2....#B...R..$3br..
.....%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.................................................................
..................w.......!1..AQ.aq."2...B......#3R..br.
.$4.%.....&'()*56789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz...................................................?.......6A.*.\..
.z.V..~.........O.VmJT.R.N6..8=".00..]...O.....^.S.k.kFv.....U+..%s.....7...;.1-...M....#.",.J..fj\YG..d."......TV..&.1.r.]..Z..Y.Z;......zX.....k>fm....=#..a.C......z..{}....$..g..>"#QQk.....x.oU....:.]..h.q...].h.'...$
[.......$.............[Sv.rFx...3...t....x..?..R`..1.('..........g....?..'...Tu...)i..F..r.M.?.._..R7.o.%]BG.d...------brovtectmjpegstreamboundary
Content-Type: image/jpeg
Content-Length: 962
File-Name: face_20160826T134554_[50_18_84_52].jpg

......JFIF.....................
..
......(.....1#%.(:3=<93870H\N8DWE78PmQW_bghg>Mqypdx\egc......./../cB8Bcccccccccccccccccccccccccccccccccccccccccccc......./../cB8Bcccccccccccccccccccccccccccccccccccccccccccccc......$.
$.."...................................
..................}........!1A..Qa."q.2....#B...R..$3br..
.....%&'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxyz.................................................................
```

boundary string
Face box(left, top, right, bottom)
First Face picture
Face time(YYYYMMDDThhmmss)
Second Face picture

The user can use the HTTP CGI to get all JPEG images to the same directory.

11.13.2 GET Snapshot images stream of the detected Face

Request URL	/action/stream?subject=face
Request Body	None.
Response	200: Succeed in Request

	400: Error of Request 403: No Right to Request 500: Error in Server

11.14 GET and SET Human Detection on MSTAR Solution

11.14.1 Parameters Description

The related parameters are defined like the below:

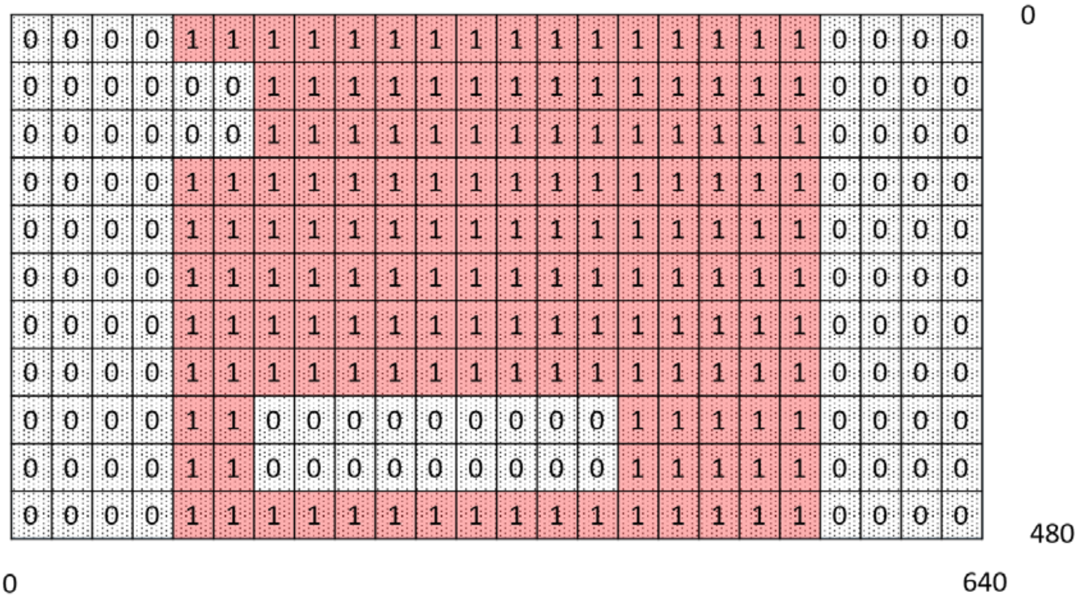
enable: enable or disable human/person detection on MSTAR solution camera, 0: it can only be gotten, cannot be set. If to set this parameter, please use the api: 4.1 Get and Set Alarm Parameters.

confidence: the confidence value for the human to be detected, value range is [0,100]
scene: the application scenes, 0: indoor; 1: outdoor;
border: enable or disable the border of the detection zone, 0: disable; 1: enable;

areamask.row: the value of the raw of the macro zone in detection region.
areamask.col: the value of the column of the macro zone in detection region.
areamask.mask: the mask value of the macro zone in the detection region.

NOTE:

1) Detection Region: the detection region is full size of the image which can be divided into several (row * col) detection macro zones, each macro zone can be set separately to be valid or invalid detection zone.
2) The value of area.mask identify if the macro zone is valid detection zone, 1: YES, 0: NO. Each bit represents each macro.
3) The format of areamask.mask is several groups which was built by every 4 bytes which is shown by hexadecimal strings. If less than 4 bytes, 0 will be alignment. Each group should be separated by ",".
4) Example like the below:



0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0

The

red colored zone is the valid detection zones, the macro zone was identified: 1;
For the above image, the value will be like the below:
areamask.row : 11
areamask.col: 24
areamask.mask: 0ffff0,03fff0,03fff0,0ffff0,0ffff0,0ffff0,0ffff0,0ffff0,0c01f0,0c01f0,0ffff0

11.14.2 GET Human Detection (MSTAR) Parameters

Request URL	/action/get?subject=persondetect
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <response> <persondetect ver="2.0"> <enable>0</enable> <confidence>50</confidence> <scene>0</scene> <border>1</border> <areamask> <row>18</row> <col>22</col> <mask>0,0,0,7000,7f8000,2000008,7e000,30200081,40020d80,4c20006,8000000,0,0</mask> </areamask> </persondetect> </response>

11.14.3 SET Human Detection (MSTAR) Parameters

Request URL	/action/set?subject=persondetect
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <persondetect ver="2.0"> <enable>0</enable> <confidence>50</confidence> <scene>0</scene> <border>1</border>

	<areamask> <row>18</row> <col>22</col> <mask>0,0,0,7000,7f8000,2000008,7e000,30200081,40020d80,4c20006,8000000,0,0</mask> </areamask> </persondetect> </request>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

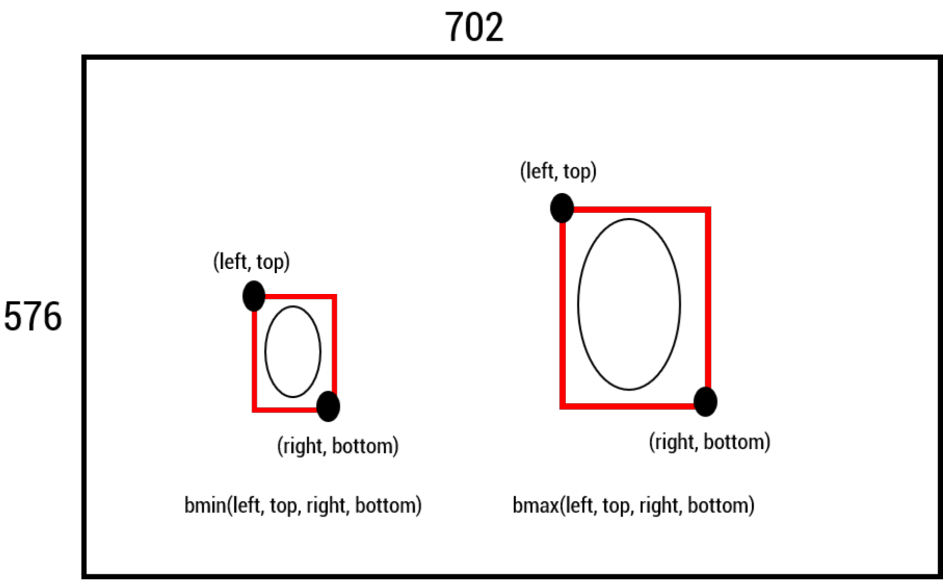
11.15 GET and SET AI Face Detection on AI Solution

11.15.1 Parameters Description

The related parameters are defined like the below:

enable: enable or disable face detection on AI solution camera, 0: it can only be gotten, cannot be set. If to set this parameter, please use the api: 4.1 Get and Set Alarm Parameters.

confidence: the confidence value for the face to be detected, value range is [0,100]
pquality: the quality of the face snapshot, 0: normal; 1: middle; 2: the best
pmode: the picture mode of the snapshot, 0: face only; 1: full screen;
bmin: the minimum size of the face to be detected. The format is (left, top, right, bottom), the unit is the percentage.
bmax: the maximum size of the face to be detected. The format is (left, top, right, bottom), the unit is the percentage.
Explanation about bmin and bmax parameters is like below:


702
576
(left, top)
(left, top)
(right, bottom)
(right, bottom)
bmin(left, top, right, bottom)
bmax(left, top, right, bottom)

The video for settings
As example, the video used resolution is D1 (702*576)

In CGI, parameters (left,top,right,bottom) is the percentage of the pixels of the video resolution. As example if the CMS/Web/Nvr etc. devices are using the D1(702*576) video for parameter settings. If the bmin in camera is (5,5,10,10), and the value in pixel should be (702*5%,576*5%,702*10%,576*10%) (35,28, 70, 58). So, in pixel in left-top point is (35,28) and right-bottom point is (70,58). thus if these devices is using “pixels” to get the settings from the camera and then do the following settings in its side, they should use this calculation internal as this way.

By contraries, if the CMS/Web/NVR want to set bin or bmax parameters to the camera by CGI, and at the same time they are using “pixel” internally,   thus the parameters in CGI should be calculated as the contrary calculations , at the same time the calculated percentage value should not be floating point number.

As example if the left-top and right-bottom points are (35,28) and (70,58), the video is D1 resolution, the parameters in CGI for the camera should be

(35/702*100, 28/576*100, 70/702*100, 58/576*100) = (5,5,10,10)

show.boder, to shown the box of the face detected. 0: disable, 1: enable.
Show.id: to show the ID of the face detected. 0: disable, 1: enable.

11.15.2 GET Face Detection (AI) Parameters

Request URL	/action/get?subject=facedetect
Request Body	NONE
Response	<?xml version="1.0" encoding="utf-8"?> <request> <facedetect ver="2.0"> <enable>0</enable> <confidence>50</confidence>

	<pquality>0</pquality> <pmode>1</pmode> <bmin>0,0,5,5</bmin> <bmax>0,0,50,50</bmax> <update>500</update> <show> <border>1</border> <id>1</id> </show> </facedetect> </request>

11.15.3 SET Face Detection (AI) Parameters

Request URL	/action/set?subject=facedetect
Request Body	<?xml version="1.0" encoding="utf-8"?> <request> <facedetect ver="2.0"> <enable>0</enable> <confidence>50</confidence> <pquality>0</pquality> <pmode>1</pmode> <bmin>0,0,5,5</bmin> <bmax>0,0,50,50</bmax> <update>500</update> <show> <border>1</border> <id>1</id> </show> </facedetect> </request>
Response	200: Succeed in Set 400: Error of Request 403: No Right to Set 500: Failed to Set

--END--
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