MQTT protocol of intelligent network camera

V1.25

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catalog

1. Overview

MQTT (message queuing telemetry transport) is an instant messaging protocol developed by IBM.

It is a "lightweight" communication protocol based on publish / subscribe mode. It is built on TCP / IP protocol and designed for the resource limited devices and low bandwidth, high latency or unreliable networks.

Network camera adopts MQTT protocol v3.1.1, QOS: 0.

This manual mainly used for helping the third-party platform to integrate the network camera

2. Functional detailed design

Data exchange format:

1. Data exchange is based on JSON format.

2. The value of image field is its binary content which is base64 encoded, or a file download url.

3. Build environment and client

In order to get quick start and understand the working mechanism of mqtt, this chapter describes how to quickly load the testing proxy server 'mqtt broker', and the testing client 'mqtt.box' or 'mqtt.fx' (mqtt.box will have a stuck in publishing or subscribing a big message, mqtt.fx is only suitable for subscribing to receive topic messages, not suitable for simulating publishing messages contain Chinese characters) on the windows platform.When using official online platform to docking, you don't need to build windows proxy server and client test tools and so on. The mqtt proxy server and mqtt client tools introduced below are only for testing, official use requires platform development and integration.

3.1. build windows MQTT platform service (only required for windows testing)

1. Download and install compatible JDK to your system , JDK 8 or above will be fine (the following

is the version of JDK I installed and tested)

2.Download apache-apollo-1.7.1-windows, from the below URL

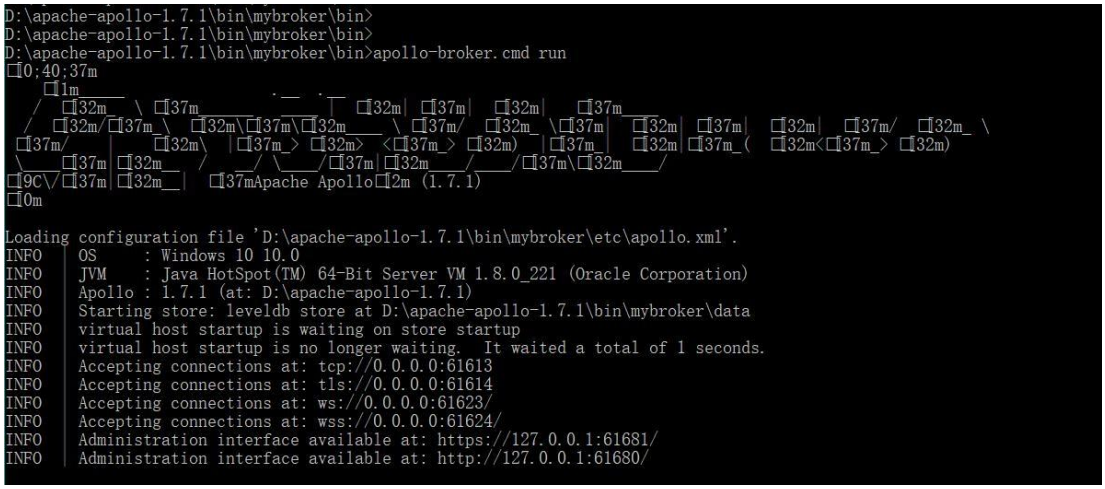
http://archive.apache.org/dist/activemq/activemq-apollo/1.7.1/

3. Run the CMD as an administrator and change to directory which the decompressed bin files located

4. Enter the command: create a directory (the following command is an example)

apollo create myapollo C:\apache-apollo\broker

5.After successful creation, change to the broker\bin directory and then execute the “apollo-broker.cmd run” command to start the service



6.Log in to http://127.0.0.1:61680 to test (the default account is “admin” and the

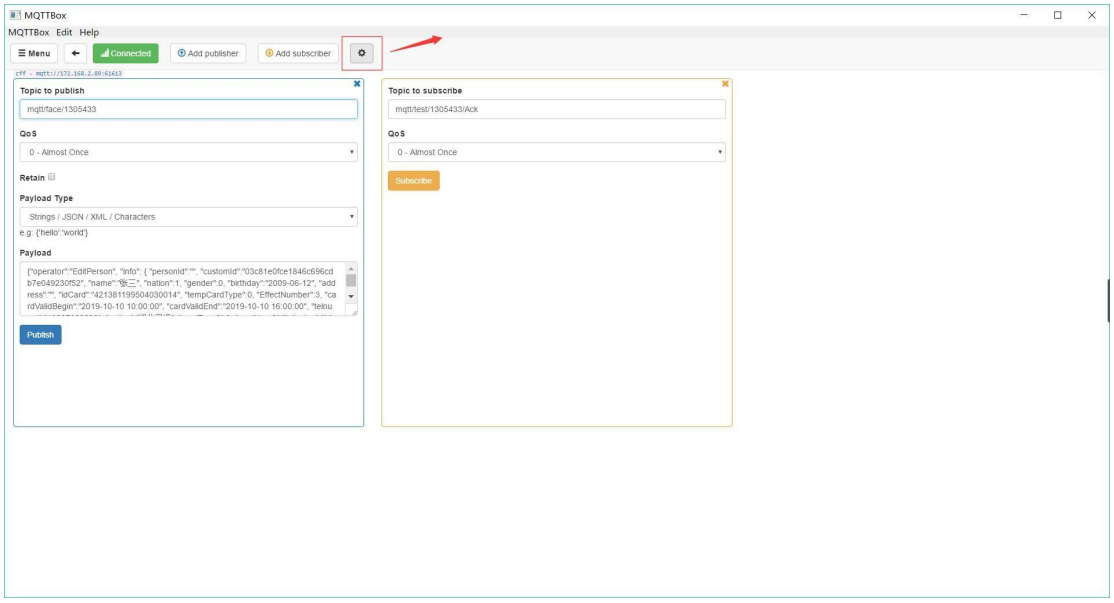
default password is “password ”). Note that the port 61680 is web's port， but the port 61613 is the MQTT sever port.

3.2. MQTT client tool

Mqttbox 

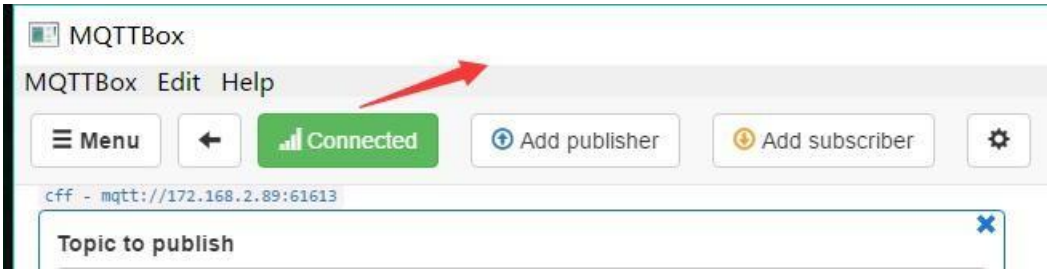
3.2.1. connect the MQTT broker

make sure the Firewall of the system was closed and create a new connection settings



fill in mqtt service host address and port (Port default 61613) account(admin) and password(password)

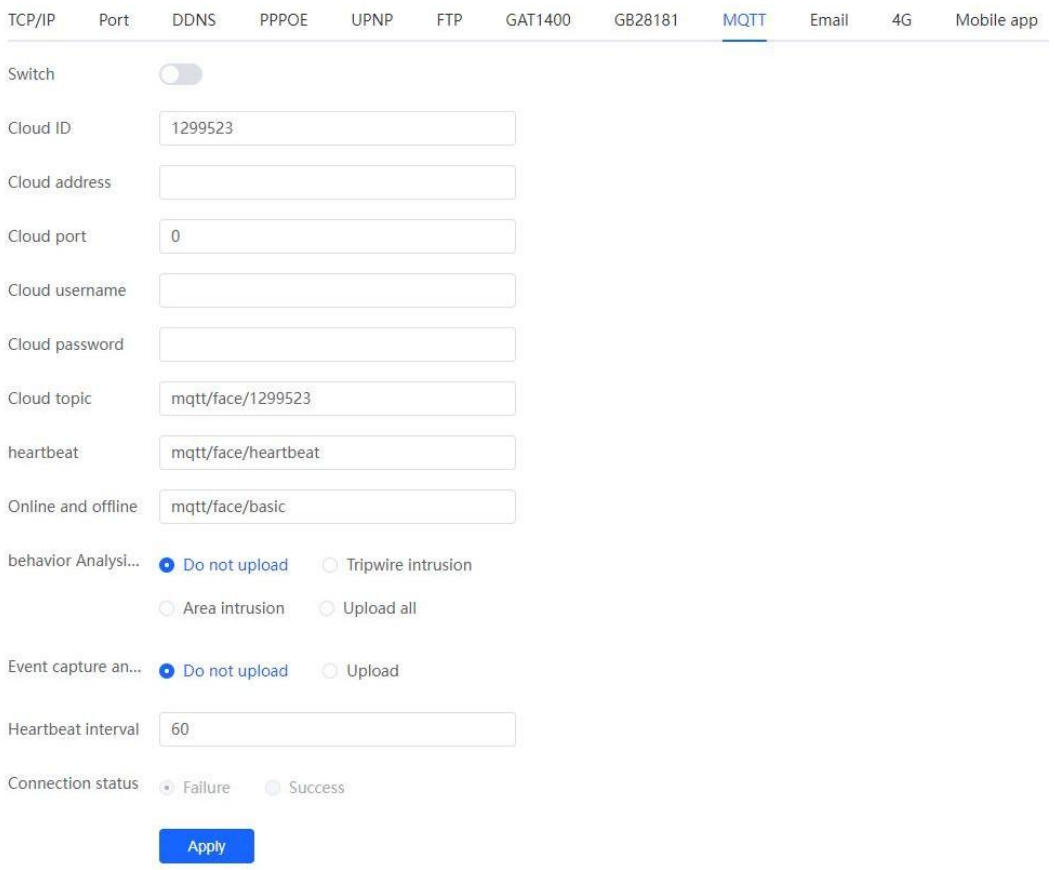
Displaying Green indicates successful connection



3.2.2. publish topics

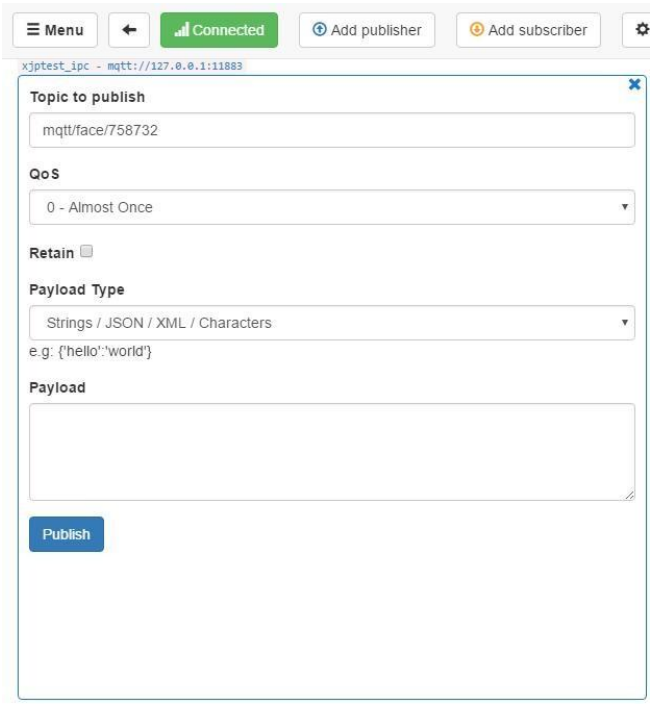
First of all, check the MQTT settings of the network camera, the cloud ID number is generally filled in with the device ID of the network camera. The cloud address is filled in with the IP address of the host computer of the mqtt service created in the previous step, and the user name and password are consistent with those created in the previous step,Fill in the topic with cloud topic which the network camera will subscribe (which the server will publish the topics and will send the personnel list).

MQTT Settings:



2.After adding a publisher to mqttbox, fill in the topic to be published, such as ‘mqtt/face/ID’. This topic is the topic which the mqttbox client use to publish messages to the network camera. The ID can be the device unique ID of the network camera, which can be filled in with reference

to the data content below.

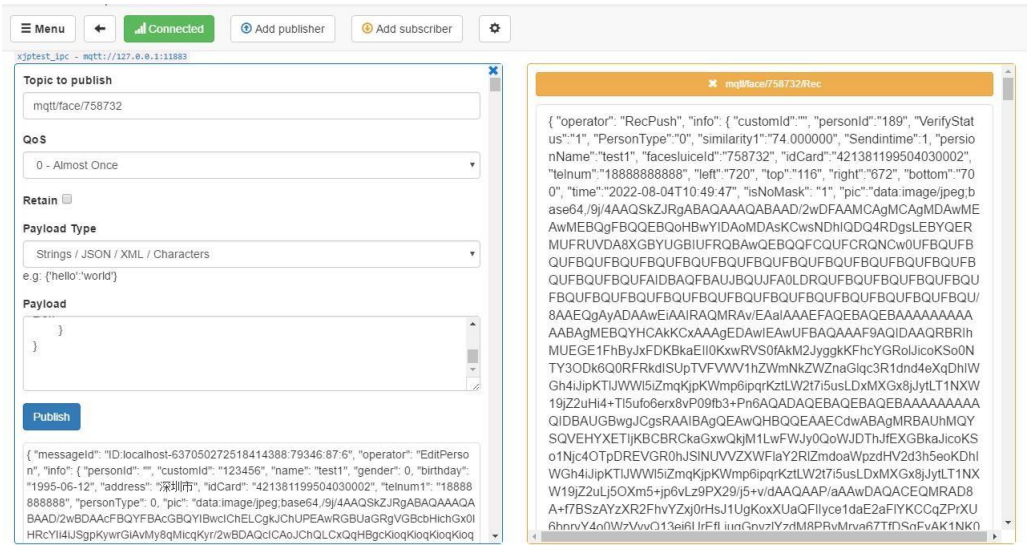


3.2.3. subscription topics

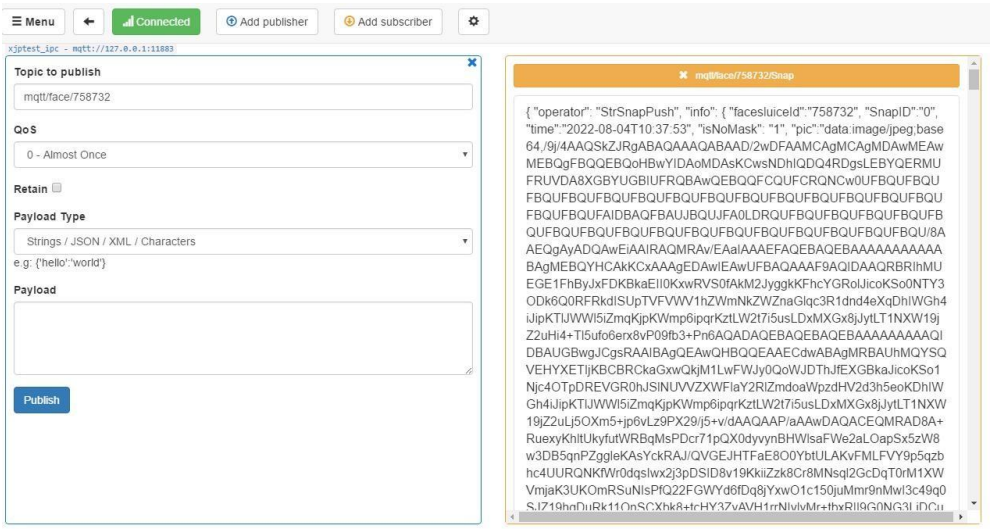
After setting the corresponding topic (mqtt/face/ID), where the id refers to the device ID, such as 005a213b000b93cc), the network camera will send the face identification records and stranger snapshot records to the corresponding topic below. by default, the identification records will be sent to the topic mqtt/face/ID/Rec (where id refers to the device ID, such as 005a213b000b93cc);A stranger's snapshot(and intelligent violation alarm snapshot) will be sent to the topic mqtt/face/ID/Snap (where id refers to the device ID, e.g., 005a213b000b93cc); the server will send the result responses of instruction messages to the topic mqtt/face/ID/ack (where id refers to the device ID, such as 005a213b000b93cc)

After adding subscribers, subscribe to the above required topics; for example, the topic of personnel identification record as shown in the following figure:

Example of pushing a personnel identification record:



Example of pushing a personnel stranger record:



4. Data transmission

The commands sent by the cloud platform (server) to the network camera device are all sent to the topic which the network camera had subscribed (default (modifiable): mqtt/face/ID, where the ID refers to the device ID, for example, 005a213b000b93cc).The results(which the network camera responded) of the corresponding commands are all pushed to the topic (mqtt/face/ID/Ack, where id refers to the device ID, such as 005a213b000b93cc).

4.1. Add or modify personnel list

If it involves the addition and modification of more than one person, the value of image fields should use the picURI method. recommended using Batch addition of personnel (URI) or Batch adding or modifying personnel (URI) functions.This function is not recommended for batch adding personnel. Because if the interval between two commands is too short, it may cause15 the heartbeat wasn't sent timely and the Ack wasn't responsed timely too. If it is necessary to use the function, the function must be called with an interval of more than 1 second when send the image data in Base64 mode ; and must be called with an interval of more than 2 seconds when send image data in the picURI mode, the interval time is according the actual condition .

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		EditPerson	Add or modify single person
messageId	String		Message ID, distinguish each message
info			concrete content
personId	String (optional)		The ID is generated by the network camera to distinguish each person, the platform does not need to send
customId	String	Length within 48 characters (including terminator)	The ID is generated by the platform uniquely to identify different persons. It is recommended to use the ID card number. If the customid device recved is already exists, it will be regarded as modifying the person; otherwise, it will be regarded as adding a person.
name	String	Length within 32 characters (including terminator)	Name of person
personType	int	0~1	0: Allow list 1: Block list

gender	int (optional)	0~1	Gender 0: Male 1: Female
idCard	String (optional)		ID number, within 32 characters in length (including terminator)
birthday	String (optional)		birthday eg.1992-06-15
telnum1	String (optional)		Phone number, within 32 characters in length (including terminator)
address	String (optional)		Address, within 72 characters in length (including terminator)
pic	String	When adding a list, choose either pic or picuri, and it is not necessary for modifying the personnel list without replacing face picture	Personnel face picture data(Base64 encoding, within 1M), choose either pic or picURI
picURI	String	When adding a list, choose either pic or picuri . It is not necessary for modifying the personnel list without replacing face picture	Personnel face picture URI address, choose either pic or picURI
tempValid	Int	List type	0: Permanent List 1: Temporary List
validBegin	String	The effective date and time of the temporary list	YYYY-MM-DD hh:mm:ss
validEnd	String	Temporary list expiration date and time	YYYY-MM-DD hh:mm:ss
effectNumber	Int	The number of valid times for the temporary list	0xffff: infinite times，The range of values for limiting the number of times: 1~10000

Add or modify the personnel list use the same function. Note that the picture data corresponding to the personnel list can be sent through the field "pic"(the field value is picture data which base64 encoded), or can be sent by the field "picURI"(the field value is the download URI for the picture that can be accessed by camera); only choose one.If it is to modify the personnel list, the field "pic" and "picURI" may not be filled in when the picture hasn't changed .

add personnel list (image field value is base64 data)

```
{
    "messageId": "ID:localhost-637050272518414388:79346:87:6",
    "operator": "EditPerson",
    "info": {
        "personId": "",
        "customId": "063c81e0fce184c696cdb7e049230f5e",
        "name": "Lisa",
        "gender": 0,
        "birthday": "1995-06-12",
        "address": "London",
        "idCard": "421381199504030002",
        "telnum1": "18888888888",
        "personType": 0,
        "pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M.）",
        "validBegin": "2023-11-10 00:00:00",
        "validEnd": "2023-12-10 00:00:00",
        "effectNumber": 10
    }
}
```

add personnel list (image field value is url , provide network camera to download)

```
{
    "messageId": "ID:localhost-637050272518414388:79346:87:6",
    "operator": "EditPerson",
    "info": {
        "personId": "",
        "customId": "063c81e0fce184c696cdb7e049230f5e",
        "name": "Lisa",
        "gender": 0,
        "birthday": "1995-06-12",
        "address": "London",
        "idCard": "421381199504030002",
        "telnum1": "18888888888",
        "personType": 0,
        "picURI": "https://btgoss.oss-cn-beijing.aliyuncs.com/image/xxx.jpg",
        "tempValid": 0,
        "validBegin": "2023-11-10 00:00:00",
        "validEnd": "2023-12-10 00:00:00",
        "effectNumber": 10
    }
}
```

4.2. Batch addition of personnel (URI)

Due to the working mechanism of MQTT queue, frequent calls of Add or modify personnel list function can easily cause problems.To solve this problem, and to improve the speed of personnel distribution, we provide batch addition of personnel function.At present, the image field value is only supports url mode in 'Batch addition of personnel' fuction.The maximum count of batch adding personnel list of network camera is limited to 1000. Each time the platform calls the function, it needs to wait for the previous batch addition of personnel list to be added successfully before issuing the batch addition of personnel list function again. After calling the function, the number of failures and successes as well as the information will be returned at one time.If the addition fails, the information error code will be attached. Please refer to the appendix for the error code Error codes for batch addition of personnel (URI). Durning the process of batch adding personnel list, other instructions related to adding / modifying / deleting the personnel list cannot be called.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		AddPersons/ AddPersons-Ack/	AddPersons:batch addition of personnel AddPersons-Ack: batch addition of personnel return
messageId	String		Message ID, distinguish each message
DataBegin	String	Fixed:BeginFlag	Packet start identification,used to detect packet integrity
DataEnd	String	Fixed:EndFlag	Packet end identification, used to detect packet integrity
PersonNum	int	1~1000	The number of personnel must be consistent with the size of corresponding personnel information JSON array
info			concrete content
[ ]			Personnel list JSON collection
customId	String		The ID is generated by the platform uniquely to identify different persons. It is recommended to use the ID card Number. Length within 48 characters (including terminator)
name	String	Length within 32 characters (including terminator)	Name of personnel
personType	int	0~1	0: Allow list 1: Block list
gender	int (optional)	0~1	Gender 0: male 1: female
idCard	String (optional)		ID number, within 32 characters in length (including terminator)

telnum1	String (optional)		Phone number, within 32 characters in length (including terminator)
address	String (optional)		Residential address, within 72 characters in length (including terminator)
birthday	String (optional)		birthday 1992-06-15
isCheckSimilarity	int (optional)	0~1	Detect the personnel similarity between the modified or added image and the personnel database. If it is greater than the set block-and-allow list verification threshold value, no addition or modification will be excuted . 0:Do not detect image similarity (default: 0) 1: Detect image similarity
picURI	String	https://btgongpluss.oss-cn-beijing.aliyuncs.com/bigheadphoto/xxx.jpg	Personnel face image URI address
facesluiceId	String		Network camera device ID, return parameters
AddErrNum	int	0~1000	The failed personnel count of personnel batch addition, return parameters
AddErrInfo	String		Personnel batch addition failure information (customid + errCode), return parameter, See Appendix for errCode
AddSucNum	int	0~1000	The successful personnel count of personnel batch addition, return parameters
AddSucInfo	String		Personnel batch addition successful information (customid),return parameters
tempValid	Int	List type	0: Permanent list 1: Temporary list
validBegin	String	Date and date of the provisional list	YYYY-MM-DD hh:mm:ss
validEnd	String	Temporary list expiration date and time	YYYY-MM-DD hh:mm:ss
effectNumber	Int	Number of temporary list	0xffff: infinite times, finite times of the value range: 1~10000

4.2.1. Batch addition of personnel

e.g.1, add 1000 personnel lists in batch

{

```
"messageId":"AddPersonslist2020-04-13T19:07:00_00001",
"DataBegin":"BeginFlag",
"operator":"AddPersons",
"PersonNum":1000,
"info":[
    {
        "customId":"063c81e0fce184c696cdb7e049230f5e23dfqwxc230000",
        "name":"test000",
        "gender":0,
        "birthday":"1992-06-13",
        "address":"53 Kaiping Road, Qingdao, Shandong",
        "idCard":"421381199504030000",
        "telnum1":"13690880000",
        "personType":0,
        "picURI":"https://btgongpluss.oss-cn-beijing.aliyuncs.com/bigheadphoto/xxx.jpg",
        "tempValid": 0,
        "validBegin": "2023-11-10 00:00:00",
        "validEnd": "2023-12-10 00:00:00",
        "effectNumber": 10
    },
    /*The JSON data of 998 personnel lists are omitted here*/

    {
        "customId":"063c81e0fce184c696cdb7e049230f5e23dfqwxc230999",
        "name":"test999",
        "nation":1,
        "gender":0,
        "birthday":"1992-06-13",
        "address":"53 Kaiping Road, Qingdao, Shandong",
        "idCard":"421381199504030999",
        "telnum1":"13690880999",
        "personType":0,
        "picURI":"https://btgongpluss.oss-cn-beijing.aliyuncs.com/bigheadphoto/xxx.jpg",
        "tempValid": 0,
        "validBegin": "2023-11-10 00:00:00",
        "validEnd": "2023-12-10 00:00:00",
        "effectNumber": 10
    }
],
"DataEnd":"EndFlag"
}
```


4.2.2. batch addition of personnel return

e.g.1, batch addition of 1000 personnel lists return

```
{
    "messageId": "AddPersonslist2020-04-13T19:07:00_00001",
    "operator": "AddPersons-Ack".
    "info": {
    "facesluiceId": "005a213b000b93cc",
    "AddErrNum": "1",
    "AddSucNum": "999",
    "AddErrInfo":[
        {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230898", "errcode":
    "474"}
    ],
    "AddSucInfo":[
        {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000"},
        {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000"},
        /*996 returned data are omitted here*/

        {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230999"}
    ],
    "result": "ok"
    }
}
```


4.3. Batch adding or modifying personnel (URI)

When using Batch adding or modifying personnel (URI) function, if the personnel list corresponding to customerid imported from the platform already exists in the network camera, the actual operation is to modify this personnel list information; if the personnel list corresponding to customerid imported from the platform does not exist in the network camera, the actual operation is to add the personnel list. If use this interface. You can consider using Batch deletion of personnel list no longer.At present, the image field value is only supports url mode in this fuction. The maximum count of adding or modifying personnel by the network camera is limited to 1000. Each time the platform calls this function, it needs to wait for the previous batch modification of the personnel list to be completed.After calling the interface, the number of failures and successes as well as the information will be returned at one time. If use the interface to modify personnel fails, the information error code will be attached. Please refer to the appendix for the error code Error codes for batch adding or modifying personnel(URI)

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		EditPersonsNew/ EditPersonsNew-Ack/	EditPersonsNew:batch modifying personnel

			EditPersonsNew-Ack:batch modifying personnel return
messageId	String		Message ID, distinguish each message.
DataBegin	String	Fixed:BeginFlag	Packet start identification,used to detect packet integrity
DataEnd	String	Fixed:EndFlag	Packet end identification, used to detect packet integrity
PersonNum	int	1~1000	The number of personnel must be consistent with the size of corresponding personnel information JSON array
info			concrete content
[ ]			Personnel list JSON collection
customId	String		The ID is generated by the platform uniquely to identify different persons. It is recommended to use the ID card Number. within 48 characters (including terminator). If the customid device recved is already exists, it will be regarded as modifying the person; otherwise, it will be regarded as adding a person.
name	String	Length within 32 characters (including terminator)	Name of personnel
personType	int	0~1	0: Allow list 1: Block list
gender	int (optional)	0~1	Gender 0: male 1: female
idCard	String (optional)		ID number, within 32 characters in length (including terminator)
telnum1	String (optional)		Phone number, within 32 characters in length (including terminator)
address	String (optional)		Residential address, within 72 characters in length (including terminator)
birthday	String (optional)		birthday 1992-06-15
picURI	String	https://btgongpluss.oss-cn-beijing.aliyuncs.com/bigheadphoto/xxx.jpg	The URI address of the personnel face image is not transmitted if it is not changed

isCheckSimilarity	int (optional)	0~1	Detect the personnel similarity between the modified or added image and the personnel database. If it is greater than the set block-and-allow list verification threshold value, no addition or modification will be excuted .
			0:Do not detect image similarity (default: 0) 1: Detect image similarity
facesluiceId	String		Network camera device ID, return parameter
AddErrNum	int	0~1000	The failed personnel count of personnel batch addition or modification, return parameters
AddErrInfo	String		Personnel batch addition or modification failure information (customid + errCode). return parameters. See Appendix for errCode
AddSucNum	int	0~1000	The successful personnel count of personnel batch addition or modification, return parameters
AddSucInfo	String		Personnel batch addition or modification successful information (customid). return parameters

4.3.1. Batch adding or modifying personnel

e.g.1, add or modify 1000 personnel lists in batch

```
{
    "messageId": "EditPersonsNewlist2020-07-24T19:07:00_00002",
    "DataBegin": "BeginFlag".
    "operator": "EditPersonsNew",
    "PersonNum":1000,
    "info":[
        {
            "customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000",.
            "name": "modify000",
            "telnum1": "13700880000"
        },

    /*The JSON data of 998 personnel lists are omitted here*/
```

{

"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230999",
"name": "modify999",
"picURI":
"https://btgongpluss.oss-cn-beijing.aliyuncs.com/bigheadphoto/xxx111.jpg"

```
            }
        ]
        "DataEnd": "EndFlag"
}
```

4.3.2. Batch adding or modifying personnel return

e.g.1, batch addition or modification of 1000 personnel lists return:

```
{
    "messageId": "EditPersonsNewlist2020-07-24T19:07:00_00002",
    "operator": "EditPersonsNew-Ack".
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "AddErrNum": "1",
        "AddSucNum": "999",
          "AddErrInfo".
        [
            {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230898",
            "errcode": "461"}
        ],
        "AddSucInfo".
        [
            {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000"},
            {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000"},
        /*996 returned data are omitted here*/

            {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230999"}
        ],
        "result": "ok"
    }
}
```

4.4. Query personnel list information

There are two query functions, one is to query the detailed information, the other is to query the all customids of personnel list in the device.

4.4.1. query the all customids of personnel list in the device

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		QueryPerson/ QueryPerson-Ack	QueryPerson:Query the customids of all personnel QueryPerson-Ack: returns the customids of all personnel
messageId	String		Message ID, to distinguish each message.
info			concrete content
facesluiceId	String		network camera device ID, return value
customId	String	Length within 48 characters (including terminator)	The ID is generated by the platform uniquely to identify different persons. It is recommended to use the ID card number
totalPersonNum	int		Total count of personnel list in network camera (including the list with empty customid, such as the list added on the web side), return parameter
queryPersonNum	int		Query result count of personnel list in network camera (excluding the list with empty customId), return parameter

Query message:

```
{
    "operator": "QueryPerson".
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "info":{}
}
```

Confirmation message returned:

```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "QueryPerson-Ack".
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "totalPersonNum": "99",
        "queryPersonNum":  "98",
        "customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000,063c81e0fce184c6
          96cdb7e049230f5e23dfqwxc230001, /* 96 pieces of data are omitted here*/",.
        "result": "ok"
```

```
    }
}
```

CustomIds are separated by ,. There may be duplicate IDs

4.4.2. query the detailed information of single personnel list

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		SearchPerson/ SearchPerson-Ack	SearchPerson:Query the information of a single person(customid specified) SearchPerson-Ack: return information of a single person(customid specified)
messageId	String		Message ID to distinguish each message.
info			concrete content
facesluiceId	String		Network camera device ID, return value
customId	String	Length within 48 characters (including terminator)	The ID is generated by the platform Uniquely to identify different persons. It is recommended to use the ID card number
Picture	int (optional)	0~1 (default 0)	Whether including picture information 0:List without picture information 1: List with picture information
pic	String (optional)		Image base64 encoded data (return parameter)

```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "SearchPerson".
    "info":{
            "customId": "063c81e0fce184c696cdb7e049230f5e",
             "Picture": 1
        }
}
```

Confirmation message returned:

```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "SearchPerson-Ack",
    "code": "200",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "personId": "191",
        "customId": "063c81e0fce184c696cdb7e049230f5e",
        "name": "Lisa",
        "gender": "0",
        "idCard": "421381199504030002",
        "birthday":  "0000-00-00",
        "address": "",
        "creatTime": "2022-08-04 04:18:05",
        "telnum1": "18888888888",
        "personType":  "0",
        "result":"ok"
    },
    "pic": "....."
}
```


4.4.3. Multi-person list searches

The function supports two methods to search, but it does not support return with image data at present.How to return the specific parameter fields can be referred to function Add or modify personnel list。

Search Description:

1. Search by time: set the start time and end time of search, and

the name is empty

2. Search by name or fuzzy search by name: set the name of search, and the start time and end time are empty

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		SearchPersonList/ SearchPersonList-Ack	SearchPersonList:Multi person list search SearchPersonList-Ack: return multi person list search reslut
messageId	String		Message ID, distinguish each

			message.
info			concrete content
facesluiceId	String		The device ID of network camera. When the specific key value is passed in, only the matching camera will execute search operation. If not, all cameras that subscribe to the same topic will execute search operation
personType	int (optional)	0~2	List type 0: Allow list 1:Block list 2:All
BeginTime	String (optional)	2018-08-13 00:00:00	The start time of the search
EndTime	String (optional)	2020-08-19 23:59:59	The end time of the search
gender	int (optional)	0~2	Gender 0: Male 1: Female 2: All
name	String (optional)		Person's full name
RequestCount	int (optional)	1~2000(Default:100)	The total count of personnel informations returned from the query list (is up to 2000, without pictures at present). If it is set to be more than 2000, only 2000 personnel informations will be returned.
BeginNO	int (optional)	Default value 0, 0 or integer multiples of 'RequestCount'	The starting position of the query list, starting from the first person.
Picture	int	0~1	Include picture information (reserved)
TotalPersonNum	int		Total person count of matching lists, return parameter
PersonNum	int		The person count of matching lists in a single return, return parameter
List			Match list JSON array, return parameter

e.g.1, search according to time period

```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "SearchPersonList".
        "info": {
            "facesluiceId": "005a213b000b93cc",
            "personType":0,
```

```
                "BeginTime": "2018-08-13 00:00:00",
                "EndTime": "2022-08-04 23:59:59",
                "gender":2.
                "BeginNO":0,
                "RequestCount":100
        }
}
```

e.g.1, search return reslut according to time period

```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "SearchPersonList-Ack".
    "code": 200.
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "TotalPersonNum": 15,
        "PersonNum": 15.
        "List": [
            {
                "LibID": 164.
                "personType": 0,
                "name": "123123".
                "gender": 1.
                "idCard": " ",
                "birthday": "1995-06-12".
                "telnum1": "zr10001-null",
                "address": " ",
                "customId": "427570782491643904"
            },/* The list data is omitted here*/
            {
            /* The list data is omitted here */
            }
        ]
    }
}
```

e.g.2, search by name,or fuzzy search by name

```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "SearchPersonList".
    "info": {
        "facesluiceId": "005a213b000b93cc",
```

```
        "personType":0,
        "BeginTime": "2018-08-13 00:00:00",
        "EndTime": "2022-08-04 23:59:59",
        "name": "123123".
        "gender":2.
        "BeginNO":0,
        "RequestCount":100
    }
}
```


e.g.2, search by name,or fuzzy search by name return:


```
{
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "operator": "SearchPersonList-Ack".
    "code": 200.
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "TotalPersonNum": 1,
        "PersonNum": 1,
        "List": [
            {
                "LibID": 164.
                "personType": 0,
                "name": "123123".
                "gender": 1.
                "idCard": " ",
                "birthday": "1995-06-12".
                "telnum1": "zr10001-null",
                "address": " ",
                "customId": "427570782491643904"
            }
        ]
    }
}
```


4.5. Delete single personnel list

The delete single personnel list function is only applicable to delete a single personnel list. If you need to delete more than one personnel lists, it is recommended to use Batch deletion of personnel list.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		DelPerson	DelPerson: Delete a single personnel list
messageId	String		Message id, distinguish each message.
info			concrete content
facesluiceId	String (optional)		Network camera device ID, return value
customId	String	Length within 48 characters (including terminator)	The ID is generated by the platform uniquely to identify different persons. It is recommended to use the ID card number

```
{
    "operator": "DelPerson".
    "messageId":  "ID:localhost-637046811507388956:23952:65:48",
    "info": {
        "customId": "063c81e0fce184c696cdb7e049230f5e"
    }
}
```

4.6. Batch deletion of personnel list

A maximum of 200 personnel lists can be deleted at one time. When deleting the maximum number of personnel lists, you need to wait for this command to return (generally it takes 7 seconds to complete) before issuing other instructions or issuing batch deletion of personnel lists again. After deleting the list through this function, the control records will not be deleted. If the existing customid is passed in, it will execute successfully. If the non-existent customid is passed in, a prompt will be given in the failure information. Deleting the non-existent customid will not affect the use of the platform. If the platform does not care, doesn't need to process the failure return information of deleting the non-existent customId.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		DeletePersons/ DeletePersons-Ack/	DeletePersons: batch delete personnel DeletePersons-Ack:batch delete personnel return
messageId	String		Message ID, distinguish each message
DataBegin	String	Fixed:BeginFlag	Packet start identification, used to detect packet integrity

DataEnd	String	Fixed:EndFlag	Packet end identification, used to detect packet integrity
PersonNum	int	1~200	The number of deleted personnel must be consistent with the total number of corresponding personnel information customid
info			concrete content
customId	String		The ID is generated by the platform uniquely to identify different persons. It is recommended to use the ID card Number. Length within 48 characters (including the ending character)
facesluiceId	String		Network camera device ID, return parameter
DelErrNum	int	0~200	The failed personnel count of personnel batch deletion, return parameters
DelErrInfo	String		Personnel batch deletion failure information(customid),return parameters
DelSucNum	int	0~200	The successful personnel count of personnel batch deletion,return parameters
DelSucInfo	String		Personnel batch deletion successful information (customid),return parameters

4.6.1. Batch deletion of personnel

e.g.1, delete 200 personnel lists in batch

```
{
    "messageId": "2020-05-14 11:07:00 DeletePersons",
    "DataBegin": "BeginFlag".
    "operator": "DeletePersons".
    "PersonNum":200,
    "info":{
    "customId":[
        "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000".
        /*198 pieces of data are omitted here * /,
        "063c81e0fce184c696cdb7e049230f5e23dfqwxc230199".
    ]
},
    "DataEnd": "EndFlag"
}
```

4.6.2. Batch deletion of personnel return

e.g.1, batch deletion of 200 personnel list return

```
{
    "messageId": "2020-05-14 11:07:00 DeletePersons",
    "operator": "DeletePersons-Ack".
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "DelErrNum": "98",
        "DelSucNum": "102",
        "DelErrInfo":[{"customId":  "063c81e0fce184c696cdb7e049230f5e23dfqwxc230000"},
            /*96 pieces of data are omitted here * /,
            {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230098"}],.
    "DelSucInfo":[{"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230099"},
            /*100 pieces of data are omitted here * /,
            {"customId": "063c81e0fce184c696cdb7e049230f5e23dfqwxc230199"}],.
    "result": "ok"
    }
}
```


4.7. Delete all personnel lists

4.7.1. Issue an instruction to delete all personnel lists

Deleting all personnel lists will delete all allow personnel lists 、 block personnel lists and strangers personnel lists from the network camera, without deleting the identification record lists and the stranger record lists.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		DeleteAllPerson/ DeleteAllPerson-Ack	DeleteAllPerson:Delete all personnel lists DeleteAllPerson-Ack:delete all personnel list return
messageId	String		Message ID, distinguish each message.
info			concrete content
facesluiceId	String (optional)		Network camera device ID, return value
deleteall	int	0~1	Delete all personnel list 1: Confirm deletion
result	String	"ok"/"fail"	Operation results
detail	String (optional)		When result field's value is "fail", it indicates the error message

{
"messageId": "ID:localhost-637046811507388956:23952:65:48",
"operator": "DeleteAllPerson".
"info":{
"deleteall":1
}
}

4.7.2. The confirmation message for deleting all personnel lists

{
"messageId": "ID:localhost-637046811507388956:23952:65:48",
"operator": "DeleteAllPerson-Ack".
"info": {
"facesluiceId": "005a213b000b93cc",
"result": "ok"
}
}

4.8. The confirmation message for add / modify / delete personnel list (the device send reponse confirmation message, received by the Platform)

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		EditPerson-Ack/ DelPerson-Ack	EditPerson-Ack:Add / modify personnel return DelPerson-Ack:delete person return
messageId	String		Message ID, distinguish each message
info			concrete content
facesluiceId	String (optional)		Network camera device ID, return value
personId	String (optional)		The id is generated by the the network camera automatically, return value
customId	String	Length within 48	The ID is generated by the platform

	(optional)	characters (including terminator)	uniquely to identify different persons. It is recommended to use the ID card number
result	String	"ok"/"fail"	Operation results
detail	String (optional)		When result field's value is "fail", it indicates the error message


```
{
    "messageId":  "ID:hqvtsw013-45030-636591533573927379-1:3:1:1:1",
    "operator": "EditPerson-Ack".
    "info":{
        "facesluiceId": "0001".
        "personId": "0001",
        "customId": "063c81e0fce184c696cdb7e049230f5e",
        "result": "ok",
        "detail":"
    }
}
```


5. Upload personnel identification record

This interface is suitable for camera with facial identification.

The personnel identification record is pushed to the corresponding topic by the network camera (see publish identification record topic corresponding to in publish topics).If the device is set to use continuous transmission after network interruption, The platform is necessary to reply the confirmation message for identification record, otherwise the device will send the same identification record again by again; for details, please refer to the explanation of Continuous transmission after network interruption

Key	Type	Values	Description
operator		Operation flag, RecPush	Personnel identification record push; applicable to camera with facial identification
customId	char		The personnel ID generated by the platform(distinguish each person)
personId	char		The personnel ID generated by the network camera(distinguish each person). The platform is uncontrollable

RecordID	int		The record ID of the control record database, which is used to reply confirmation message to the network camera when using continuous transmission after network interruption
VerifyStatus	int	0 to 3 or 22, 24	Certification results 0: Nothing 1: Allow 2: Refuse 3: Not registered yet
PersonType	int	0~1	Type of list 0: Allow list 1: Block list
facesluiceId			Network camera device ID , distinguish each camera
facesluiceName			Name of network camera
similarity1	float	0~100	Similarity of block and allow list comparison
Sendintime	int	0~1	0: Non-real-time data (record not generated within 10 seconds) 1: Real-time data (record generated within 10 seconds)
personName	String		Name of personnel
targetPosInScene	Arary[]		The coordinates of the top left and bottom right corners of the target in the scene image
pic			Targe Image base64 encoded data (within 1M)
scene	String		Scene Image base64 encoded data (within 2M)
time	char		Identification time
idCard	char		ID number
telnum	char		Phone number
isNoMask	int	0~2	0: Wearing a mask or unchecking mask detection function 1: Not wearing a mask 2: Not wearing a mask (open the door conditions ticked ‘allow pass without wearing a mask’) Note: mask version support

PushType	int		Push Type 0: Reserved 1: Reserved
			2: Push type for calling '20 manually push the control record' return data

e.g.1, push and report personnel identification record:


```
{
    "operator": "RecPush",
    "info": {
        "customId": "063c81e0fce184c696cdb7e049230f5e",
        "personId": "22",
        "RecordID": "389",
        "VerifyStatus": "1",
        "PersonType": "0",
        "similarity1": "94.000000",
        "Sendintime": 1,
        "persionName": "154545",
        "facesluiceId": "1006498",
        "idCard": " ",
        "telnum": "454545",
        "time": "2023-09-18 13:33:33",
        "isNoMask": "0",
        "PushType": 0,
        "targetPosInScene": [217,0,1333,1080],
        "pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）",
        "scene": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）"
        }
}
```


e.g.2,Manually push and report personnel identification records:


```
{
    "operator": "RecPush",
    "info": {
        "customId": "",
        "personId": "35",
        "RecordID": "466",
        "VerifyStatus": "1",
        "PersonType": "0",
        "similarity1": "96.000000",
        "Sendintime": 0,
```

"persionName": "张五",
"facesluiceId": "1006498",
"idCard": "",
"telnum": "",

"time": "2023-09-22 14:38:00",
"isNoMask": "0",
"PushType": 2,
"targetPosInScene": [0,0,0,0],
"pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）"
}
}

Compared with the authentication recognition result push report, manually pushed authentication recognition result record push reports may lack data such as "idCard","targetPosInScene", and "targetPosInScene".

6. Upload personnel stranger record

This interface is suitable for camera with facial identification.

When enable the stranger snapshot upload mode, the camera will push the stranger snapshot record to the snapshot push topic. See 3.2.3 subscription topics

Key	Type	Values	Description
operator		Operation Flag, StrSnapPush	Stranger capture record push; applicable to camera with facial identification
SnapID	int		The record ID of the stranger snapshot record database, which is used to reply confirmation message to the network camera when using continuous transmission after network interruption
facesluiceId	String		Network camera device ID , distinguish each camera
facesluiceName	String		Name of network camera
time	String	"2019-11-28 11:26:40"	Snapshot time of strangers
isNoMask	int	0~2	0: Wearing a mask or unchecking mask detection function 1: Not wearing a mask 2: Not wearing a mask (open the door conditions ticked 'allow pass without wearing a mask') Note: mask version support
targetPosInScene	Arary[]		The coordinates of the top left and bottom right corners of the target in the scene image
pic			Target Image base64 encoded data (within 1M)
scene	String		Scene Image base64 encoded data (within 2M)
PushType	int		Push Type 0: Reserved 1: Reserved 2: Push type for calling '22 Manually Push Stranger Capture Record' return data

e.g.1, push and report stranger capture record:

{
"operator": "StrSnapPush",
"info":{
"facesluiceId": "1006498",
"SnapID": "946",
"time": "2023-09-18 12:00:30",
"isNoMask": "1",
"PushType": 0,
"targetPosInScene": [0,0,1161,1080],
"pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）",
"scene": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）"
}
}

e.g.2, Manually push and report stranger capture record:

{
"operator": "StrSnapPush",
"info": {
"facesluiceId": "1006498",
"SnapID": "1123",
"time": "2023-09-22 14:48:56",
"isNoMask": "0",
"PushType": 2,
"targetPosInScene": [0,0,0,0],
"pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）"
}
}

Compared with pushing and reporting stranger capture records, manually pushing and reporting stranger capture records will lack data such as "scene", and "targetPosInScene".

7. Device online and offline notification

After the device is connected to the platform, the device sends a device online notification actively; after the device is offline, the device sends a device offline notification actively.The device will actively push the online and offline notification message to the topic mqtt / face / basic.

Key	Type	Values	Description
operator		Online/ Online-Ack/ Offline	Online:Device online notification Online-Ack : confirmation message for online notification (platform send, receive by device)

			Offline:Device offline notice
info			concrete content
facesluiceId	String		Network camera device ID
username	String		Cloud user name
ip	String		Device IP address
facesname	String		Device name
time	String		Online time
result	char	"ok"	The platform sends the confirmation message for receiving device online notification

7.1. Device online notification

On the premise of successful connection to the platform, the device sends an online notification message to the platform. After receiving the online notification message, the platform needs to reply confirmation message for online notification to the device. Otherwise, the device will continuously send the online notification message to the platform at intervals (the same as the heartbeat intervals) until the platform confirmation message is received.By default, the topic of pushing online notification message is mqtt/ face / basic.

e.g., the device sends a online notification

```
{
    "operator": "Online",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "username": "admin",
        "time": "2022-08-04 15:11:10",
        "ip": "172.168.2.202",
         "facesname": "IPC758732"
     }
}
```

7.2. The confirmation message for device online notification

After receiving the online notification from the device, the platform needs to reply the online notification to the device. Otherwise, the device will continuously send the online notification message to the platform at intervals (the same as heartbeat intervals) until the platform confirmation message is received.

e.g., the platform replies online notification confirmation message to the device

```
{
    "messageId": "10201".
```

"operator": "Online-Ack".
"info":{
"facesluiceId": "005a213b000b93cc",
"result": "ok",
"detail":"
}
}

7.3. Device off-line notification

By default, the topic of the device push offline notification message is mqtt/face / basic.The device offline notice has been changed to be sent in the form of a will. The device offline notification may be sent by the server after a short period of time under the abnormal conditions such as network interruption. Offline notification can be used with heartbeat cooperatively.

e.g., device sends an offline notification

{
"operator": "Offline".
"info": {
"facesluiceId": "005a213b000b93cc"
}
}

8. Continuous transmission after network interruption

When pushing stranger snapshot record or personnel identification record, mqtt can be set to whether to adopt the mode of continuous transmission after network interruption. By default, the mode is not adopted, the platform (server) does not need to reply confirmation message for each received stranger snapshot record or personnel identification record. If the mode is adopted, The platform (server) needs to reply confirmation message to each received stranger snapshot record or personnel identification record according to the following format within 10 seconds, otherwise network camera will push the same record in the next 10 seconds or so.If the record platform (server) received is a stranger snapshot record, set PushAckType to 1 and SnapOrRecordID to the same SnapID filled in '6 Upload personnel stranger record' when packing confirmation message to reply to the network camera. If the record platform (server) received is a personnel identification record , set PushAckType to 1 and SnapOrRecordID to the same RecordID filled in '5 Upload personnel identification record' when packing confirmation message to reply to the network camera.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		PushAck/ PushAck-Ack/	PushAck:Platform (server) send confirmation message for receiving pushed record PushAck-Ack:The device (client) send ack for had received the confirmation message for pushed record
info			concrete content
PushAckType	int	1~3	1:Reply to receiving a stranger snapshot record 2:Reply to receiving a personnel identification record 3:Reply to receiving a generic push record
SnapOrRecordID	int		PushAckType=1; fill in the received stranger snapshot's SnapID PushAckType=2; fill in the received personnel identification record's RecordID PushAckType=3; fill in the received record's value of SnapOrRecordID field
result			Result, success: "ok"/fail: "fail".
detail			The reason returned on failure

8.1. The confirmation message for receiving a stranger record

In the mode of continuous transmission after network interruption, when enabing the stranger snapshot record push, the platform needs to reply the confirmation message to network camera after receiving the stranger snapshot record.

e.g.1, suppose the platform receives the following stranger snapshot record

Then the platform needs to reply to the network camera as follows

e.g.2 the platform replies the confirmation message for receiving the stranger snapshot record

```
{
    "operator": "PushAck".
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "PushAckType":1,
        "SnapOrRecordID":217699
    }
}
```

8.2. The reply message for receiving the stranger record's confirmation message

{ "messageId":"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX", "operator": "PushAck-Ack", "info": { "facesluiceId":"758732", "result":"ok", "PushAckType":"1", "SnapOrRecordID":"217699" } }

8.3. The confirmation message for receiving a identification record

In the mode of continuous transmission after network interruption, when enabling the personnel identification record push, the platform needs to reply the confirmation message to network camera after receiving the personnel identification record.

e.g.1, suppose the platform receives the personnel identification record

{ "operator": "RecPush", "info": { "customId":"188644352", "personId":"1697", "RecordID":"490805", "VerifyStatus":"1", "PersonType":"0", "similarity1":"81.000000", "Sendintime":0, "persionName":"张三", "facesluiceId":"758732", "idCard":"421381199504030002", "telnum":"18888888888", "left":"1104", "top":"248", "right":"784", "bottom":"828", "time":"2022-08-22T16:14:44", "isNoMask": "1", "pic":"

Then the platform needs to reply to the network camera as follows

e.g.2 the platform replies the confirmation message for receiving the personnel identification record

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "PushAck".
    "info": {
        "PushAckType":2,
        "SnapOrRecordID":490805
    }
```

}

8.4. The reply message for receiving the identification record's confirmation message

8.5. The confirmation message for receiving a generic snap record

In the mode of continuous transmission after network interruption, when enabing the event capture record push, the platform needs to reply confirmation message to the network camera after receiving the event capture record.

e.g. 1, suppose the platform receives the event capture record：


```
{
"operator": "VisibleKitchenSnapPush",
"info": {
"deviceId":"1598787",
"time":"2023-07-21 18:03:15",
"snapOrRecordID":"1689962595"
"targetType":"0",
"alarmType":{
"CookAlarmType":[1]
},
"pic":"
YWGDEjJR0oOjM9PDkzODdASFxOQERXRTc4UG1RV19iZ2hnPk1xeXBkeFxlZ2P/2wBDARESEhgVGC8aGi9jQjhCY2
NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2NjY2P/wAARCAIsAcADASIAAhEBAx
EB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMU
EGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZW
ZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2u
Hi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBA
cFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5Ok
NERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uL
m6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwDZ8+nCcetVTS0XGWhMOx
z9KkV81R/GrEPPFO4FjpRRSUwFopKKACiikNABS0lNdsCgBdw9aWsyS4cN6YNKLsg9DSuBpUVRW7GetRFeet2vrRcC1
```


Then the platform needs to reply to the network camera as follows

e.g.2 Platform replies the confirmation message for receiving the generic push record

```
{
        "operator": "PushAck",
        "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
        "info": {
                "PushAckType": 3, "SnapOrRecordID".
                "SnapOrRecordID": 1689962595
 }
 }
```

8.6. The reply message for receiving the generic snap record's confirmation message

e.g.1 Device replies message for receiving generic push record's confirmation message

```
{
         "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "PushAck-Ack".
        "info": {
                "facesluiceld": "1598787", "result": "ok",
                { "result": "ok",
        "PushAckType": "3",
        "SnapOrRecordlD": "1689962595"
                }
     }
```

9.Heartbeat

In order to solve the problem that many platforms can not detect the connection between the network camera and the platform in time, The device will actively push the heartbeat message to the topic mqtt / face / heartbeat every 30 seconds.

Key	Type	Values	Description
operator		HeartBeat	Online:Device Heartbeat
info			concrete content
facesluiceId	String		Network camera device ID
time	String		Heartbeat time

9.1. Heartbeat

The platform can detect whether the network camera is reconnected or shut down by not receiving the heartbeat for several times (at least twice). If the platform detects the reconnection, If no reply is received to the command messages sent during this period,it needs to be sent again.

e.g., the device sends a heartbeat.

```
{
    "operator": "HeartBeat".
    "info": {
      "facesluiceId": "005a213b000b93cc",
      "time": "2020-05-10 19:43:34"
    }
}
```

10. Parameter configuration

The MQTT reporting parameters are mainly concerned with related settings such as whether to push stranger capture record and personnel identification record.

Parameter information (Note: the field not marked optional is required)

10.1. MQTT reporting parameters

Key	Type	Values	Description
operator		GetMQTTconfig/ UpMQTTconfig/ GetMQTTconfig-Ack/ UpMQTTconfig-Ack	Getting/Setting MQTT Reporting Parameters Get/Set MQTT Reporting Parameter Returns
info			concrete content
facesluiceId	String		Network camera device ID
StrangerUploadType	int	0~1	Stranger capture record upload (default:0) 0: Upload 1: No upload
RecordUploadType	int	0~2	Personnel identification record upload (default:1) 0:No upload 1:Identification record upload with captured image 2:Identify records uploaded without captured pictures
BehaviorUploadType	int	0~4，255	Behavior analysis upload (default: 0) 0: Do not upload 1: Tripwire intrusion 2: Area intrusion 3: Leave post monitoring 4: Safe riding 255: All uploaded
KeepAliveInterval	int	20~300	Heartbeat Interval
OnlineTopic	char		Device Online and Offline Topic
HeartbeatTopic	char		Device Heartbeat Topic
KeepAliveInterval	int	20~300	Heartbeat Interval
OnlineTopic	char		Device Online and Offline Topic
HeartbeatTopic	char		Device Heartbeat Topic
ResumefromBreakpoint	int	0~1	Whether Stranger Capture records and personnel identification records are enabling MQTT Continuous transmission after network interruption (when Stranger Capture Upload or Identification Records Upload is enabling),0:Not enabled 1:Enabled. If you don't enable the function of continuous transmission, it only guarantees to push the record and doesn't need to be replied by the platform

			(cloud server). If enable the function, then pushed records need to be replied confirmation message to the camera by the server, see Continuous transmission after network interruption After 10 seconds the network camera does not receive the correct confirmation message from the server, it continues to push the same record.
BeginTime	char (optional)	YYYY-MM-DD hh:mm:ss	The default start time of MQTT resume upload, you can leave it blank. Default time is the time when enable the stranger capture record upload or personnel identification record upload and enable the continuous transmission function. If the stranger capture and personnel identification record before the breakpoint is pushed completed, this time will become to the time when complete the record push. e.g., 2020-04-01 09:10:00
ReConnect	int	0~1	Whether the camera requires reconnection services (reserved) 0: Not required 1: Required
Reboot	int	0~1	Whether the camera needs to reboot (reserved) 0: Not required 1: Required
result			Result, success: "ok"/fail: "fail".
detail			The reason returned on failure

10.1.1. Get MQTT reporting parameters

e.g.,

```
{
    "operator": "GetMQTTconfig",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
```

```
    "info": {}
}
```

10.1.2. Get MQTT reporting parameter returns

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetMQTTconfig-Ack",
    "code": "200",
    "info": {
        "facesluiceId": "123555",
        "StrangerUploadType": "1",
        "RecordUploadType": "1",
        "BehaviorUploadType": 0,
        "KeepAliveInterval": "60",
        "OnlineTopic": "mqtt/face/basic",
        "HeartbeatTopic": "mqtt/face/heartbeat",
        "ResumefromBreakpoint": "0",
        "BeginTime": "2024-05-29 15:35:45",
        "result": "ok"
    }
}
```

10.1.3. Set MQTT reporting parameters

e.g.1, set to enable continuous transmission after network interruption, stranger capture push + personnel identification record push (without authentication image)

```
{
    "operator": "UpMQTTconfig",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "StrangerUploadType": 0,
        "RecordUploadType": 2,
        "BehaviorUploadType": 0,
        "KeepAliveInterval": 20, "OnlineTopic":
        "mqtt/face/basic", "HeartbeatTopic":
        "mqtt/face/heartbeat",
        "ResumefromBreakpoint": 1,
        "BeginTime": "2022-08-31 15:31:39"
    }
}
```

e.g.2, set to disable continuous transmission after network interruption, enable personnel identification record push (with authentication image)

```
{
    "operator": "UpMQTTconfig",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "StrangerUploadType": 0,
        "RecordUploadType": 2,
        "BehaviorUploadType": 0,
        "KeepAliveInterval": 20, "OnlineTopic":
        "mqtt/face/basic", "HeartbeatTopic":
        "mqtt/face/heartbeat",
        "ResumefromBreakpoint": 0,
        "BeginTime": "2022-08-31 15:31:39"
    }
}
```


10.1.4. Set the MQTT reporting parameter returns

e.g.,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "UpMQTTconfig-Ack",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "result": "ok"
    }
}
```


10.2. Sound parameters

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		GetSoundconfig/ UpSoundconfig/ GetSoundconfig-Ack/ UpSoundconfig-Ack	Getting/Setting Sound and Display Parameters Get/Set Sound and Display Parameters Return
info			concrete content
facesluiceId	char		Network camera device ID
VerifySuccAudio	int (optional)	0~1	Whether to broadcast sound or not 0: No broadcast 1: Broadcast
Volume	int (optional)	0~100	Volume value
result		Result, success:	

		"ok"/fail: "fail".	
detail		The reason returned on failure	

10.2.1. Get sound and display parameters

e.g.,

```
{
    "operator": "GetSoundconfig".
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {}
}
```

10.2.2. Get sound and display parameters return

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetSoundconfig-Ack".
    "code": "200",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "VerifySuccAudio": "1",
        "Volume": "80",
        "result": "ok"
    }
}
```

10.2.3. Set sound and display parameters

e.g.,

```
{
    "operator": "UpSoundconfig".
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "VerifySuccAudio": 1,
        "Volume": 80
    }
}
```

10.2.4. Set sound and display parameters return

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "UpSoundconfig-Ack".
    "code": "200",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "result": "ok"
    }
}
```


10.3. System time

The system time is mainly related to the system running time of the network camera.

Key	Type	Values	Description
operator		GetSysTime/ GetSysTime-Ack/ SetSysTime/ SetSysTime-Ack	GetSysTime: Get system time. GetSysTime-Ack:Get system time return SetSysTime: Set system time. SetSysTime-Ack:Set system time return
info			concrete content
facesluiceId	char		Network camera device ID
SysTime	char	YYYY-MM-DD hh-mm-ss	e.g., 2020-04-01 09:10:00
result			Operation result, success: "ok"/fail: "fail".
detail			The reason returned on failure

10.3.1. Get system time

e.g.,


```
{
    "operator": "GetSysTime",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {}
}
```


10.3.2. Get system time return

e.g.,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetSysTime-Ack".
    "info": {
```

```
        "facesluiceId": "005a213b000b93cc",
        "SysTime": "2020-04-02 18:59:54",
        "result": "ok"
    }
}
```


10.3.3. Set system time

e.g.,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetSysTime",
    "info": {
        "SysTime": "2020-04-01 17:59:54"
    }
}
```


10.3.4. Set system time return

e.g.,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetSysTime-Ack",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "result": "ok"
    }
}
```


10.4. Restart the device

The restart device command will restart the device.

Key	Type	Values	Description
operator		RebootDevice/ RebootDevice-Ack	RebootDevice:Reboot device RebootDevice-Ack:Reboot device return
info			concrete content
facesluiceId	char		Network camera device ID
result	char		Operation result,success: "ok"/fail: "fail".
detail	char		The reason returned on failure

10.4.1. restart the device

e.g.,

{
"operator": "RebootDevice".
"messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
"info": {}
}

10.4.2. restart device return

e.g.,

{
"operator": "RebootDevice-Ack".
"messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
"info": {
"facesluiceId": "1305433".
"result": "ok"
}
}

10.5. Restore the device to factory settings

Factory reset currently only supports saving current network parameters, restoring other factory settings and restoring all factory settings.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		SetFactoryDefault/ SetFactoryDefault-Ack	SetFactoryDefault: Factory reset SetFactoryDefault-Ack: Factory reset return
info			concrete content
facesluiceId	char		Network camera device ID
DefaltNetPar	Int (optional)	0~1	Whether the network parameters are restored to the factory settings 0: Don't factory restore 1: Restore to factory
DefaltPerson	unsigned char (optional)	0~1	Whether the personnel-related are restored to the factory 0: Don't factory restore 1: Restore to factory
result			Result, success: "ok"/fail: "fail".
detail			The reason returned on failure

10.5.1. Restore to factory settings

e.g.2 Network parameters are restored to factory settings (dangerous operation!!!)


```
{
    "operator": "SetFactoryDefault",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "DefaltNetPar": 1
    }
}
```


10.5.2. Restore to factory settings return

e.g.1,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetFactoryDefault-Ack",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "reboot": "1",
        "result": "ok"
    }
}
```


10.6. RTSP parameters

RTSP parameters are mainly to set the RTSP running parameters of the device, set the RTSP parameters successfully the device will reboot, This function is only supported by some device models at present.

Key	Type	Values	Description
operator		GetRTSPCfg/ GetRTSPCfg-Ack/ SetRTSPCfg/ SetRTSPCfg-Ack	GetRTSPCfg: Get RTSP parameters GetRTSPCfg-Ack:Get RTSP parameters return SetRTSPCfg: Set RTSP parameters SetRTSPCfg-Ack:Set RTSP parameters return
info			concrete content
facesluiceId	String		Network camera device ID
OpenVerify	Int	0~1	Whether to enable RTSP service 0: Not enable 1: Enable
PackSize	Int	1~1500 (default:1500)	Media data packed size in bytes

RTSPPort	Int		RTSP port
result			Result, success: "ok"/fail: "fail".
detail			The reason returned on failure

10.6.1. Get RTSP parameters

e.g.,

```
{
    "operator": "GetRTSPCfg",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {}
}
```

10.6.2. Get RTSP parameters return

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetRTSPCfg-Ack".
    "code": "200",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "OpenVerify": "0",
        "PackSize": "1500",
        "RTSPPort": "554",
        "result": "ok"
    }
}
```

10.6.3. Set RTSP parameters

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetRTSPCfg",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "OpenVerify": 0,
        "PackSize": 1500.
        "RTSPPort": 556
    }
}
```

10.6.4. Set RTSP Parameters Return

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetRTSPCfg-Ack".
    "code": "200",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "result": "ok"
    }
}
```


10.7. Get device basic information

10.7.1. Issue a command to obtain device basic information

Key	Type	Values	Description
operator		GetDeviceInformation/ GetDeviceInformation-Ack	GetDeviceInformation:Get device basic information GetDeviceInformation-Ack:Get device basic information return
facesluiceId	String		Network camera device ID, distinguish each camera
DeviceType	int	0~3	Broad category of device (0:IPC 1:DVR 2:NVR 3:Panel Unit)
DeviceSubType	int		Device subcategory (not used at present)
result			Result, success: "ok"/fail: "fail".
detail			The reason returned on failure


```
{
    "operator": "GetDeviceInformation",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {}
}
```


10.7.2. Get device basic information return


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetDeviceInformation",
    "info": {
        "DeviceType": "0",
        "DeviceSubType": "0",
        "result": "ok"
    }
```

}

10.8. Defense rule parameters

Currently, only facial recognition devices are supported.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		GetDeploymentRuleconfig/ SetDeploymentRuleconfig/ GetDeploymentRuleconfig-Ack/ SetDeploymentRuleconfig-Ack	Get/Set Defense Rule Parameters Get//Set Defense Rule Parameters Return
info	Object		concrete content
deviceId	String		Webcam ID, distinguish each machine
objectType	int	0~1	Get/Set Type: 1: Face
areaConf	Object (optional)		Region Configuration
areaConf.areaMaxNum	int		Number of regions
areaConf.scale	int		Maximum coordinate value, fixed at 10000
areaConf.areas	Arary[]		Identify region points, if the array size is 0, no region will be set
areas.x	int		Calculate the x-coordinate of the detection area point based on "scale"
areas.y	int		Calculate the y-coordinate of the detection area point based on "scale"
algConf	Object (optional)		Algorithm parameters
algConf.version	String		Algorithm version
algConf.scale	int		Maximum coordinate value, fixed at 10000
algConf.minDetectWidth	int	218-5000	Minimum detection target width, calculated based on 'scale'
algConf.minDetectHeight	int	218-5000	Minimum detection target height, calculated based on "scale"
algConf.maxDetectWidth	int	218-10000	Maximum detection target width, calculated based on 'scale'

algConf.maxDetectHeight	int	218-10000	Maximum detection target height, calculated based on "scale"
result			Operation result, success: "ok"/failure: "fail"
detail			Reason returned upon failure

10.8.1. Get defense rule parameters

e.g.1,Get defense rule parameters


```
{
    "operator": "GetDeploymentRulesconfig",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "objectType": 1
    }
}
```


10.8.2. Get defense rule parameters return

e.g.1,Get defense rule parameters return


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetDeploymentRulesconfig-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "objectType": 1,
        "areaConf": {
            "areaMaxNum": 1,
            "areaType": 1,
            "scale": 10000,
            [
                [{
                    "x": 0,
                    "y": 0
                }, {
                    "x": 10000,
                    "y": 0
                }, {
                    "x": 10000,
                    "y": 10000
                }, {
                    "x": 0,
                    "y": 10000
```

```
                    }]
                ]
            },
            "algConf": {
                "version": "18.0.1",
                "scale": 10000,
                "minDetectWidth": 218,
                "minDetectHeight": 387,
                "maxDetectWidth": 9072,
                "maxDetectHeight": 8861
            }
        }
}
```

10.8.3. Set defense rule parameters

e.g.1,Set defense rule parameters

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetDeploymentRulesconfig",
    "info": {
        "deviceId": "123555",
        "objectType": 1,
        "areaConf": {
            "areaMaxNum": 1,
            "areaType": 1,
            "scale": 10000,
            "areas": [
                [{
                        "x": 2713,
                        "y": 1197
                    },
                    {
                        "x": 8664,
                        "y": 2395
                    },
                    {
                        "x": 7940,
                        "y": 8385
                    },
                    {
                        "x": 1477,
                        "y": 8055
                    },
```

{

```
                        "x": 1065,
                        "y": 3750
                    }
                ]
            ]
        },
        "algConf": {
            "scale": 10000,
            "minDetectWidth": 2784,
            "minDetectHeight": 2222,
            "maxDetectWidth": 2017,
            "maxDetectHeight": 1805
        }
    }
}
```


10.8.4. Set defense rule parameters return

e.g.1,Set defense rule parameters return


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetDeploymentRulesconfig-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "result": "ok"
    }
}
```


10.9. 4G card information

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		QuerySIMCardInfo/ QuerySIMCardInfo-Ack	Get 4G card information/ Get 4G card information return
info	Object		concrete content
deviceId	String		Webcam ID, distinguish each machine
imei	String		The International Mobile Device Identification Code
iccid	String		SIM card number

imsi	String		International mobile subscriber identity
result	String		Operation result, success: "ok"/failure: "fail"
detail	String		Reason returned upon failure

10.9.1. Get reason returned upon failure

e.g. 1,Get reason returned upon failure


```
{
    "operator": "QuerySIMCardInfo",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {}
}
```


10.9.2. Get reason returned upon failure return

e.g.1 Get reason returned upon failure return


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "QuerySIMCardInfo-Ack",
    "code": "200",
    "info": {
        "deviceId": "9321000",
        "imei": "860898061705394", "iccid":
        "898604A21921C2535674", "imsi":
        "460082283305674",
        "result": "ok"
    }
}
```


10.10. Tripwire intrusion parameter

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		GetLineDetection Config/ SetLineDetection Config/ GetLineDetection	Get/set Tripwire intrusion parameter Get/set Tripwire intrusion parameter return

		Config-Ack/ SetLineDetection Config-Ack	
info	Object		concrete content
deviceId	String		Webcam ID, distinguish each machine
enable	int	0~1	Tripwire intrusion enable, 0: off 1: on
lineConf	Object (optional)		Tripwire configuration
lineConf.lineMaxNum	int	4	Maximum number of tripwires, fixed at 4
lineType	int	2	Tripwires type, fixed 2
lineConf.scale	int	10000	Maximum coordinate value, fixed at 10000
lineConf.crossDirection	Arary[].int	0~2	Crossing direction, 0: A<->B (bidirectional) 1: A ->B (go out) 2: A<-B (enter), can only be in the same direction
lineConf.lines	Arary[]	0~4	Detect tripwires points, if the array size is 0, no tripwires will be set
lines.x	int		The x-coordinate of the detection tripwires point is calculated based on the “scale”
lines.y	int		The y-coordinate of the detection tripwires point is calculated based on the “scale”
timeConf	Arary[].Object	0~6	Detection time configuration, if the array size is 0, no detection time is set
timeConf.day	int	0~6	Week, 0: Sunday~6: Saturday
timeConf.times	Arary[].String	0~4	Time period, if the array size is 0, no time is set
times.begin	String	hh:mm:ss	start time
times.end	String	hh:mm:ss	end Time
times.enable	int	0~1	Time period enable: 0: off 1: on
linkConf	Object (optional)		Linkage configuration
linkConf.audio	Object (optional)		Linkage audio
audio.enable	int	0~1	Linkage audio enabled: 0: off 1: on
audio.times	int	0~255	Audio playback number of times
linkConf.ioOut	Object (optional)		linkage io

ioOut.time	int	0~255	IO output duration (integer part): in
			seconds
ioOut.timeMs	int	0-999	IO output time (fraction part): unit milliseconds
ioOut.noList	Arary[].int	0~1	IO serial number
ioOut.noEnable	Arary[].int	0~1	Enable IO index, enable if there is an index, disable if there is no index, and disable if the array size is 0
linkConf.light	Object (optional)		Linkage warning light
light.enable	int	0~1	Linkage warning light enable: 0: off 1: on
light.mode	int		Warning light mode: default 0
light.time	int	0~255	Alert duration: Unit seconds
linkConf.mail	Object (optional)		Linkage email
mail.enable	int	0~1	Linkage email enable: 0: Close 1: Open
linkConf.ftp	Object (optional)		Linkage FTP
ftp.enable	String	0~1	Enable FTP linkage: 0: Off 1: On
algConf	Object (optional)		Algorithm parameters
algConf.sensitive	int	1~100	sensitivity
algConf.detectionTarget	Arary[].String		Types of defense targets, People ": people" Vehicle ": cars
result	String		Operation result, success: "ok"/failure: "fail"
detail	String		Reason returned upon failure

10.10.1. Get Tripwire intrusion parameter

e.g.1Get Tripwire intrusion parameter

```
{
    "operator": "GetLineDetectionConfig",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
    }
}
```

10.10.2. Get Tripwire intrusion parameter Return

e.g.1Get Tripwire intrusion parameter Return


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetLineDetectionConfig-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "enable": 1,
        "lineConf": {
            "lineMaxNum": 4,
            "lineType": 2,
            "scale": 10000,
            "crossDirection": [
                0,
                0,
                0
            ],
            "lines": [
                [{
                        "x": 5809,
                        "y": 9687
                    },
                    {
                        "x": 9559,
                        "y": 5798
                    }
                ],
                [{
                        "x": 14,
                        "y": 9722
                    },
                    {
                        "x": 9659,
                        "y": 121
                    }
                ],
                [{
                        "x": 0,
                        "y": 1909
                    },
                    {
                        "x": 1704,
```

```
                    "y": 0
                }
            ]
        ]
    },
    "timeConf": [{
            "day": 0,
            "times": [{
                "begin": "00:00:00",
                "end": "01:01:01"
            }],
            "enable": 1
        },
        {
            "day": 1,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:01:01"
                },
                {
                    "begin": "02:02:02",
                    "end": "03:03:03"
                }
            ],
            "enable": 1
        },
        {
            "day": 2,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:01:01"
                },
                {
                    "begin": "02:02:02",
                    "end": "03:03:03"
                },
                {
                    "begin": "04:04:04",
                    "end": "05:05:05"
                }
            ],
            "enable": 1
        },
        {
```

```
                "day": 3,
                "times": [{
                        "begin": "00:00:00",
                        "end": "01:01:01"
                    },
                    {
                        "begin": "02:02:02",
                        "end": "03:03:03"
                    },
                    {
                        "begin": "04:04:04",
                        "end": "05:05:05"
                    },
                    {
                        "begin": "06:06:06",
                        "end": "07:07:07"
                    }
                ],
                "enable": 1
            },
            {
                "day": 4,
                "times": [],
                "enable": 0
            },
            {
                "day": 5,
                "times": [],
                "enable": 0
            },
            {
                "day": 6,
                "times": [{
                    "begin": "18:00:00",
                    "end": "23:59:59"
                }],
                "enable": 1
            }
        ],
        "linkConf": {
            "audio": {
                "enable": 1,
                "times": 1
            },
```

```
                "ioOut": {
                    "time": 2,
                    "timeMs": 599,
                     "noList":
                        [ 0,
                          1
                    ],
                    "noEnable": [
                          1
                    ]
                },
                "light": {
                    "enable": 1,
                    "mode": 0,
                    "time": 3
                },
                "mail": {
                    "enable": 1
                },
                "ftp": {
                    "enable": 1
                }
            },
            "algConf": {
                "sensitive": 5,
                "detectionTarget": []
            }
        }
}
```


10.10.3. Set Tripwire intrusion parameter

e.g.1Set Tripwire intrusion parameter


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetLineDetectionConfig",
    "info": {
        "deviceId": "123555",
        "enable": 1,
        "lineConf": {
            "lineMaxNum": 4,
            "lineType": 2,
            "scale": 10000,
            "crossDirection": [0, 0, 0],
```

"lines": [

```
                [{
                        "x": 5838,
                        "y": 9722
                    },
                    {
                        "x": 9588,
                        "y": 5833
                    }
                ],
                [{
                        "x": 42,
                        "y": 9756
                    },
                    {
                        "x": 9687,
                        "y": 156
                    }
                ],
                [{
                        "x": 0,
                        "y": 1944
                    },
                    {
                        "x": 1732,
                        "y": 0
                    }
                ]
            ]
        },
        "timeConf": [{
                "day": 0,
                "times": [{
                    "begin": "00:00:00",
                    "end": "01:01:01"
                }],
                "enable": 1
            },
            {
                "day": 1,
                "times": [{
                        "begin": "00:00:00",
                        "end": "01:01:01"
                    },
                    {
```

```
                    "begin": "02:02:02",
                    "end": "03:03:03"
                }
            ],
            "enable": 1
        },
        {
            "day": 2,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:01:01"
                },
                {
                    "begin": "02:02:02",
                    "end": "03:03:03"
                },
                {
                    "begin": "04:04:04",
                    "end": "05:05:05"
                }
            ],
            "enable": 1
        },
        {
            "day": 3,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:01:01"
                },
                {
                    "begin": "02:02:02",
                    "end": "03:03:03"
                },
                {
                    "begin": "04:04:04",
                    "end": "05:05:05"
                },
                {
                    "begin": "06:06:06",
                    "end": "07:07:07"
                }
            ],
            "enable": 1
        }, {
```

```
                "day": 4,
                "times": [],
                "enable": 0
            },
            {
                "day": 5,
                "times": [],
                "enable": 1
            },
            {
                "day": 6,
                "times": [{
                    "begin": "18:00:00",
                    "end": "23:59:59"
                }],
                "enable": 1
            }
        ],
        "linkConf": {
            "audio": {
                "enable": 1,
                "times": 1
            },
            "ioOut": {
                "time": 2,
                "timeMs": 600,
                "noList": [0, 1],
                "noEnable": [1]
            },
            "light": {
                "enable": 1,
                "mode": 0,
                "time": 3
            },
            "mail": {
                "enable": 1
            },
            "ftp": {
                "enable": 1
            }
        },
        "algConf": {
            "sensitive": 5,
            "detectionTarget": []
```

```
            }
        }
}
```

10.10.4. Set Tripwire intrusion parameter Return

e.g.1Set Tripwire intrusion parameter Return

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetLineDetectionConfig-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "result": "ok"
    }
}
```

10.11. Area intrusion parameter

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		GetFieldDetectionConfig/ SetFieldDetectionConfig/ GetFieldDetectionConfig-Ack/ SetFieldDetectionConfig-Ack	Get/Set Area intrusion parameter Get/Set Area intrusion parameter Return
info	Object		concrete content
deviceId	String		Webcam ID, distinguish each machine
enable	int	0~1	Area invasion enabled: 0: off 1: on
areaConf	Object (optional)		Area configuration
areaConf.areaMaxNum	int	4	Maximum number of areas, fixed by 4
areaConf.areaType	int	1	Area type, fixed 1
areaConf.scale	int	10000	Coordinate imum maximum, fixed 10000
areaConf.crossDirection	Arary[].int	0~2	Crossing direction, 0: A<->B (bidirectional) 1: A<- B (enter) 2: A ->B (go out), can only be in the same direction

areaConf.areas	Arary[]	0~4	Detect areas points, if the array size is 0, no tripwires will be set
areas.x	int		The x-coordinate of the detection area point is calculated based on the “scale”
areas.y	int		The y-coordinate of the detection area point is calculated based on the “scale”
timeConf	Arary[].Object		Detection time configuration, if the array size is 0, no detection time will be set
timeConf.day	int		Week, 0: Sunday~6: Saturday
timeConf.times	Arary[].String	0~4	Time period, if the array size is 0, no time period will be set
times.begin	String	hh:mm:ss	start time
times.end	String	hh:mm:ss	end time
times.enable	int	0~1	Time period enable: 0: off 1: on
linkConf	Object (optional)		Linkage configuration
linkConf.audio	Object (optional)		Linkage audio
audio.enable	int	0~1	Linkage audio enabled: 0: off 1: on
audio.times	int	0~255	Audio playback number of times
linkConf.ioOut	Object (optional)		linkage io
ioOut.time	int	0~255	IO output duration (integer part): in seconds
ioOut.timeMs	int	0-999	IO output time (fraction part): unit milliseconds
ioOut.noList	Arary[].int		IO serial number
ioOut.noEnable	Arary[].int		Enable IO index, enable if there is an index, disable if there is no index, and disable if the array size is 0
linkConf.light	Object (optional)		Linkage warning light
light.enable	int	0~1	Linkage warning light enable: 0: off 1: on
light.mode	int		Warning light mode: default 0
light.time	int	0~255	Alert duration: Unit seconds
linkConf.mail	Object (optional)		Linkage email
mail.enable	int	0~1	Linkage email enable: 0: Close 1: Open

linkConf.ftp	Object (optional)		Linkage FTP
ftp.enable	String	0~1	Enable FTP linkage: 0: Off 1: On
algConf	Object (optional)		Algorithm parameters
algConf.sensitive	int	1~100	sensitivity
algConf.detectionTarget	Arary[].String		Types of defense targets, People ": people" Vehicle ": cars
result	String		Operation result, success: "ok"/failure: "fail"
detail	String		Reason returned upon failure

10.11.1. Get area intrusion parameter

e.g.1Get area intrusion parameter

```
{
    "operator": "GetFieldDetectionConfig",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
    }
}
```

10.11.2. Get area intrusion parameter return

e.g.1Get area intrusion parameter return

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetFieldDetectionConfig-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "enable": 1,
        "areaConf": {
            "areaMaxNum": 4,
            "areaType": 1,
            "scale": 10000,
            "crossDirection": [
                2,
                2,
                2
            ],
            "areas": [
```

```
[{
        "x": 6846,
        "y": 6319
    },
    {
        "x": 8693,
        "y": 5972
    },
    {
        "x": 8991,
        "y": 8159
    },
    {
        "x": 7201,
        "y": 8784
    },
    {
        "x": 6420,
        "y": 7170
    }
],
[{
        "x": 596,
        "y": 6979
    },
    {
        "x": 5028,
        "y": 920
    },
    {
        "x": 8053,
        "y": 3645
    },
    {
        "x": 3579,
        "y": 9166
    }
],
[{
        "x": 2201,
        "y": 243
    },
    {
        "x": 0,
```

```
                    "y": 4045
                },
                {
                    "x": 2627,
                    "y": 3420
                }
            ]
        ]
    },
    "timeConf": [{
            "day": 0,
            "times": [{
                "begin": "00:00:00",
                "end": "01:00:00"
            }],
            "enable": 1
        },
        {
            "day": 1,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:00:00"
                },
                {
                    "begin": "02:00:00",
                    "end": "03:00:00"
                }
            ],
            "enable": 1
        },
        {
            "day": 2,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:00:00"
                },
                {
                    "begin": "02:00:00",
                    "end": "03:00:00"
                },
                {
                    "begin": "04:00:00",
                    "end": "05:00:00"
                }
```

```
        ],
        "enable": 1
    },
    {
        "day": 3,
        "times": [{
                "begin": "00:00:00",
                "end": "01:00:00"
            },
            {
                "begin": "02:00:00",
                "end": "03:00:00"
            },
            {
                "begin": "04:00:00",
                "end": "05:00:00"
            },
            {
                "begin": "06:00:00",
                "end": "07:00:00"
            }
        ],
        "enable": 1
    },
    {
        "day": 4,
        "times": [{
            "begin": "00:00:00",
            "end": "23:59:59"
        }],
        "enable": 1
    },
    {
        "day": 5,
        "times": [],
        "enable": 0
    },
    {
        "day": 6,
        "times": [{
            "begin": "18:00:00",
            "end": "23:59:59"
        }],
        "enable": 1
```

```
                }
            ],
            "linkConf": {
                "audio": {
                    "enable": 1,
                    "times": 1
                },
                "ioOut": {
                    "time": 2,
                    "timeMs": 200,
                     "noList":
                        [ 0,
                          1
                    ],
                    "noEnable": [
                          1
                    ]
                },
                "light": {
                    "enable": 1,
                    "mode": 0,
                    "time": 3
                },
                "mail": {
                    "enable": 1
                },
                "ftp": {
                    "enable": 1
                }
            },
            "algConf": {
                "sensitive": 80,
                "detectionTarget": []
            }
        }
}
```


10.11.3. Set area intrusion parameter

e.g.1Set area intrusion parameter


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetFieldDetectionConfig",
    "info": {
```

"deviceId": "123555",

```
"enable": 1,
"areaConf": {
    "areaMaxNum": 4,
    "areaType": 1,
    "scale": 10000,
    "crossDirection": [2, 2, 2],
    "areas": [
        [{
            "x": 6860,
            "y": 6336
        },
        {
            "x": 8707,
            "y": 5989
        },
        {
            "x": 9005,
            "y": 8177
        },
        {
            "x": 7215,
            "y": 8802
        },
        {
            "x": 6434,
            "y": 7187
        }
    ],
    [{
            "x": 610,
            "y": 6996
        },
        {
            "x": 5042,
            "y": 937
        },
        {
            "x": 8068,
            "y": 3663
        },
        {
            "x": 3593,
            "y": 9184
        }
```

```
                ],
                [{
                        "x": 2215,
                        "y": 260
                },
                {
                        "x": 0,
                        "y": 4062
                },
                {
                        "x": 2642,
                        "y": 3437
                }
                ]
        ]
},
"timeConf": [{
        "day": 0,
        "times": [{
                "begin": "00:00:00",
                "end": "01:00:00"
        }],
        "enable": 1
},
{
        "day": 1,
        "times": [{
                        "begin": "00:00:00",
                        "end": "01:00:00"
                },
                {
                        "begin": "02:00:00",
                        "end": "03:00:00"
                }
        ],
        "enable": 1
},
{
        "day": 2,
        "times": [{
                        "begin": "00:00:00",
                        "end": "01:00:00"
                },
                {
```

```
                    "begin": "02:00:00",
                    "end": "03:00:00"
                },
                {
                    "begin": "04:00:00",
                    "end": "05:00:00"
                }
            ],
            "enable": 1
        },
        {
            "day": 3,
            "times": [{
                    "begin": "00:00:00",
                    "end": "01:00:00"
                },
                {
                    "begin": "02:00:00",
                    "end": "03:00:00"
                },
                {
                    "begin": "04:00:00",
                    "end": "05:00:00"
                },
                {
                    "begin": "06:00:00",
                    "end": "07:00:00"
                }
            ],
            "enable": 1
        },
        {
            "day": 4,
            "times": [{
                "begin": "00:00:00",
                "end": "23:59:59"
            }],
            "enable": 1
        },
        {
            "day": 5,
            "times": [],
            "enable": 0
        },
```

```
                {
                    "day": 6,
                    "times": [{
                        "begin": "18:00:00",
                        "end": "23:59:59"
                    }],
                    "enable": 1
                }
            ],
            "linkConf": {
                "audio": {
                    "enable": 1,
                    "times": 1
                },
                "ioOut": {
                    "time": 2,
                    "timeMs": 200,
                     "noList":
                        [ 0,
                          1
                    ],
                    "noEnable": [
                          1
                    ]
                },
                "light": {
                    "enable": 1,
                    "mode": 0,
                    "time": 3
                },
                "mail": {
                    "enable": 1
                },
                "ftp": {
                    "enable": 1
                }
            },
            "algConf": {
                "sensitive": 10,
                "detectionTarget": []
            }
        }
    }
```

10.11.4. Set area intrusion parameter return

e.g.1Set area intrusion parameter return


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetFieldDetectionConfig-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "result": "ok"
    }
}
```


10.12. Electric spark high temperature event alarm elimination

Eliminate the alarm currently being triggered, the alarm events eliminated within the elimination time will not continue to be reported, and the new triggered alarm events will continue to be reported.

Key	Type	Values	Description
operator		SetAlarmReset/ SetAlarmReset-Ack/	SetAlarmReset:Set alarm elimination SetAlarmReset-Ack:Set alarm elimination return
info			concrete content
facesluiceId	char		Network camera device ID, distinguish each camera
EliminateTime	Int	unit s	Eliminate all the events that are currently triggering
result			Operation result, success: "ok" / failed: "fail"
detail			Reason for returned on failure

10.12.1. Set alarm elimination

e.g.,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetAlarmReset",
    "info": {
        "EliminateTime": 3600
    }
}
```

10.12.2. Set alarm elimination return

e.g.,


```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "SetAlarmReset-Ack",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "result": "ok"
    }
}
```


11. Capture a scene snapshot image

The Capture a scene snapshot image function is mainly used by the platform to obtain a scene image. Frequent calls to this function may affect the camera's identification thread. Considering that customers may set different camera's subscription topic to be a same topic, and the capture scene image operation don't usually need multiple devices to execute at the same time. As long as one camera executes, the image can be obtained. Therefore, if the faceluiceid field is filled in with a value, only the specific camera will execute the operation. If the facesluiceid field is not filled in, the operation will be executed by all cameras which had subscribe the same topic

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		GetSceneSnap/ GetSceneSnap-Ack	GetSceneSnap:Get a scene snapshot image GetSceneSnap-Ack:Get a scene snapshot image return
messageId	String		Message ID, distinguish each message.
facesluiceId	String (optional)		The device ID of network camera. If the value is filled in, the specific camera will be assigned to execute. If not, all cameras which subscribed the same topic will execute
info			concrete content
ImgType	Int	0~2 (default: 2)	Captured image data encoding type 0: obligate , 1: obligate , 2: jpeg
ImgQuality	Int (optional)	55~100	is required when Imgtype = 2, Image compression quality (default:

			55)
ImgData	String		Image data(Base64 encoding)

11.1. Get the captured scene snapshot image

e.g.1, Get the captured scene snapshot image

```
{
    "operator": "GetSceneSnap".
    "messageId":  "ID:localhost-637050888589478689:44009:24:40",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "ImgType": 2.
        "ImgQuality": 100
    }
}
```

11.2. Get the captured scene snapshot image return

e.g.1, get the captured scene image return

```
{
    "messageId":  "ID:localhost-637050888589478689:44009:24:40",
    "operator": "GetSceneSnap-Ack".
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "ImgType": "2".
        "ImgData": "*Omit data here",.
        "result": "ok"
    }
}
```

12. Remotely upgrade device and get device version information

12.1. Issue an upgrade instruction

Remote upgrade command is sent from the server to the network camera with corresponding upgrade information, and the confirmation information is sent from the network camera to the server.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description

operator		Upgrade/ Upgrade-Ack	Upgrade:Upgrade device Upgrade-Ack:Upgrade device return
messageId	String		Message ID, distinguish each message
info			concrete content
facesluiceId	String (optional)		Network camera device ID, return value
name	String		Version name
upgradeType	Int (optional)	1-5	Upgrade type, default is 1; 1、Firmware upgrade (x.udx) 5. license file upgrade (x.lic) Intermediate values (2, 3, 4) reserved
path	String		The download path of the upgrade file. The suffix must be ". udx"
result	String	"ok"/"fail"	Operation result
detail	String (optional)		When result field's value is "fail", it indicates the error message


```
{
    "messageId":  "ID:localhost-637050900934386959:42763:53:1",
    "operator": "Upgrade",
    "info": {
        "name": "v2.1.0.3.4.26_0.101.8_beta9.udx",
        "upgradeType": 1,
        "path":
"https://mqttxxxx.oss-cn-shenzhen.aliyuncs.com/face/v2.1.0.3.4.26_0.101.8_beta9.udx"
    }
}
```


12.2. The response message for upgrade instruction


```
{
    "messageId":  "ID:localhost-637050900934386959:42763:53:1",
    "operator": "Upgrade-Ack".
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "name": "v2.1.0.3.4.26_0.101.8_beta9.udx",
        "result": "ok"
    }
}
```


12.3. Obtain the device firmware version

12.3.1. issue a command to obtain firmware version

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		Versions/ Versions-Ack	Versions:Get firmware version Versions-Ack: Get firmware version return
messageId	String		Message ID, distinguish each message
info			concrete content
facesluiceId	String		Network camera device ID, return value
name	String		Firmware version number
buildtime	String		Firmware generation time
result	String	"ok"/"fail"	Operation results
detail	String (optional)		When result field's value is "fail", it indicates the error message

```
{
    "operator": "Versions".
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {}
}
```

12.3.2. Get current firmware version information return

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "Versions-Ack".
    "code": "200",
    "info": {
        "facesluiceId": "005a213b000b93cc",
        "name": "2.1.0.3.4.26-0.101.8 Beta9",
        "buildtime": "2022-09-02 14:53:13",
        "result": "ok"
    }
}
```

13. Upload visible kitchen event capture record

This interface applies to the visible kitchen detection camera.

Key	Type	Values	Description
operator		Operation flag, VisibleKitchenSnapPush	Push violation alarm snapshot ; applicable to visible kitchen detection camera.
deviceId	String		Network camera ID,to distinguish each camera
deviceName	String		Network Camera Name
time	String	"2022-09-28 17:18:40"	capture time
SnapOrRecordID	int		Capture ID, used in continuous transmission after network interruption
targetType	Int		Target type: 0: Cook 1: Animal 2: Object
alarmType	Object		Type of chef violations, animals, and dumpster event (Mutually exclusive relationship)
alarmType:CookAlarmType	Arary[]	0~5	Type of chef violations : 0: not wearing chef's hat 1: not wearing mask 2: not wearing chef's uniform 3: smoking 4: talking on the phone 5: bare shoulders
alarmType:AnimalAlarmType	Arary[]	0~2	Animal type: 0: Cat 1: Dog 2: Mouse
alarmType:ObjectAlarmType	Arary[]	0	dumpster event: 0: Uncovered dumpster
pic			Target Image base64 encoded data (within 1M)
targetPos	Arary[]		The coordinates of the top left and bottom right corners of the target in the target image
scenePic			Scene Image base64 encoded data (within 2M)
targetPosInScene	Arary[]		The coordinates of the top left and bottom right corners of the target in the scene image

e.g.1, push visible kitchen event snapshot record:

Report chef violation snapshot record:

{

"operator": "VisibleKitchenSnapPush",

```
    "info": {
        "deviceId": "9321000",
        "time": "2023-09-12 16:44:10",
        "SnapOrRecordID": "3",
        "targetType": "0",
        "alarmType": {
            "CookAlarmType": [0]
        },
        "pic": "data:image/jpeg;..... (Fill in the image base64 encoded data, within 1M)",
        "targetPos": [19, 8, 156, 408],
        "scenePic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）
",
        "targetPosInScene": [956, 42, 1266, 914]
    }
}
```


Report animal intrusion snapshot record:


```
{
    "operator": "VisibleKitchenSnapPush",
    "info": {
        "deviceId": "1000403",
        "time": "2023-06-25 09:58:02",
        "targetType": 1,
        "alarmType": {
            "AnimalAlarmType": [1]
        },
        "pic": "data:image/jpeg;..... (Fill in the image base64 encoded data, within 1M)",
        "targetPos": [19, 8, 156, 408],
        "scenePic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）
",
        "targetPosInScene": [956, 42, 1266, 914]
    }
}
```


Report dumpster event snapshot record:


```
{
    "operator": "VisibleKitchenSnapPush",
    "info": {
        "deviceId": "1000403",
        "time": "2023-06-25 09:59:23",
        "targetType": 2,
        "alarmType": {
```

"ObjectAlarmType": [0]

```
            },
            "pic": "data:image/jpeg;..... (Fill in the image base64 encoded data, within 1M)",
            "targetPos": [19, 8, 156, 408],
            "scenePic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）
",
            "targetPosInScene": [956, 42, 1266, 914]
        }
}
```

14. Upload throwing objects from height event capture record

This interface is suitable for throwing-objects-from-height detection camera.

Key	Type	Values	Description
operator		Operation flag, ParabolicSnapPush	Push violation alarm snapshot; for hrowing-objects-from-height detection camera
deviceId	String		Network camera ID, distinguish each camera
deviceName	String		Network Camera Name
snapTime	String	"2022-09-28 17:18:40"	capture time
startTime	String	"2022-09-28 17:18:38"	Event start time
endTime	String	"2022-09-28 17:18:42"	Event end time
pic			Image base64 encoded data (within 1M)

e.g.1, push throwing objects from height event:

```
{
    "operator": "ParabolicSnapPush".
    "info":{
        "deviceId": "005a213b000b93cc",
        "deviceName": "ipc758732",
        "snapTime": "2022-09-28 17:18:40",
        "startTime": "2022-09-28 17:18:38",
        "endTime": "2022-09-28 17:18:42",
        "pic":
    ""
    }
}
```

15. Upload thermal imaging alarm capture record

This interface is suitable for thermal imaging camera and triple-spectrum camera.

Key	Type	Values	Description
operator		Operation Flag, TemHighSnapPush	TemHighSnapPush: Push Hazardous high temperature alarm; for thermal imaging camera and triple-spectrum camera
deviceId	String		Network camera ID, distinguish each camera
deviceName	String		Network Camera Name
snapTime	String	"2023-02-14 11:01:02"	capture time
sparkAlarm	Int		Spark alarm:0:No1:Yes2:Have and only have spark alarm
message	Arary[]		When sparkAlarm=2, this message array field is no exist
message.areaId	Int		Area ID
message.messageType	Int		Message type 0:Temperature monitoring 1: Person leave open flame area
message.alarmType	Int		Message type 0: early warning 1:alarm
message.temRise	Int		temperature rise suddenly: 0:No 1:Yes
message.durationTime	Int		Duration (duration of continuous alarm) ,Unit: seconds
message.temRiseDuration	Int		Duration of temperature rise, unit: seconds
message.temperature	Float		Temperature,unit:° C
pic	String		Image base64 encoded data(within 1M)
tempic	String		Thermal imaging image base64 encoded data(within 1M)

e.g.1, push hazardous high temperature alarm event snapshot

{
"operator": "TemHighSnapPush".
"info": {

```
            "deviceId": "005a213b000b93cc",
            "deviceName": "ipc758732",
            "snapTime": "2023-02-14 11:01:02",
            "sparkAlarm": 0,
            "message": [
                {
                    "areaId": 0,
                    "messageType": 0,
                    "alarmType": 0,
                    "temRise": 0,
                    "durationTime": 30,
                    "temRiseDuration": 5,
                    "temperature": 32.5

                }
            ],
            "pic":
"",
            "tempic":
""
        }
}
```


16. Upload personnel and vehicular capture record

This interface is suitable for human and vehicles structured detection camera.

Key	Type	Values	Description
operator		operation flag. FullStrSnapPush	Push a target snapshot; for human and vehicles structured detection camera
SnapID	int		Target ID
deviceId	String		Network camera ID,distinguish each camera
deviceName	String		Network Camera Name
time	String	"2023-02-14 11:01:02"	capture time
objectType	int		Target type: 0:Face 1:Human body 2:Motor vehicle 3:Non-motor vehicle

objectAttr	Object		
objectAttr.carplate	String		objectType=2: motor vehicle licence plate number
targetPosInScene	Arary[]		The coordinates of the top left and bottom right corners of the target in the scene image
pic			Target Image base64 encoded data (within 1M)
scene	String	(optional)	Scene Image base64 encoded data (within 2M)

e.g.1, push a human and vehicles snapshot record


```
{
    "operator": "FullStrSnapPush",
    "info": {
        "deviceId": "005a213b000b93cc",
        "deviceName": "ipc758732",
        "time": "2023-02-14 11:01:02",
        "objectType": 2,
        "objectAttr": {
            "carplate": "YB888H9"
        },
        "targetPosInScene": [628, 353, 1400, 906],
        "pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）",
        "scene": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）"
    }
}
```


17. Behavioural analysis

17.1. Target quantity statistic

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		GetCount/GetCount-Ack	Target quantity statistics
deviceId	String		Network camera ID,distinguish each camera
deviceName	String		Network Camera Name
objectType	Int		Target type: 0:Human 1:Vehicle
num	Int		quantities

behaviourDirection	Int		Direction: 0:Bidirectional 1:Left to right 2:Right to left
time	String		Statistical time，The time format is： "time": "2023-10-23 16:48:59",

17.1.1. Requests for obtaining target quantity statistics

e.g.,

```
{
    "operator": "GetCount",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
        "objectType": 0,
        "behaviourDirection": 0
    }
}
```

17.1.2. Obtaining target quantity statistics return

e.g.,

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "GetCount-Ack",
    "code": "200",
    "info": {
        "deviceId": "123555",
        "objectType": "0",
        "num": "",
        "behaviorDirection": "0",
        "time": "2023-10-27 17:13:49",
        "result": "ok"
    }
}
```

17.2. Upload behavioural analysis capture record

Key	Type	Values	Description
operator		operation flag. BehaviorSnapPush	Push a behavioural analysis snapshot
deviceId	String		Network camera ID,distinguish each camera
deviceName	String		Network Camera Name
time	String	"2023-02-14 11:01:02"	capture time

objectType	Int		Target type: 0:Human 1:Vehicle
behaviourType	Int		Type of behaviour: 0: Tripwire incursion 1: Area incursion
behaviourDirection	Int		Direction: 0:Left to right 1:Right to left 2:Enter area 3:Leave area
pic			Target Image base64 encoded data (within 1M)
scene			Scene Image base64 encoded data (within 2M)

e.g.1, push a behavioural analysis snapshot:


```
{
    "operator": "BehaviorSnapPush",
    "info": {
        "deviceId": "005a213b000b93cc",
        "deviceName": "ipc758732",
        "time": "2023-02-14 11:01:02",
        "objectType": 0,
        "behaviourType": 0,
        "behaviourDirection": 0,
        "pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）",
        "scene": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）"
    }
}
```


17.3. Leave post monitoring

Key	Type	Values	Description
operator		operation flag. LeaveSnapPush	Leave post monitoring
deviceId	String		Network camera ID, distinguish each camera
time	String	"2023-02-14 11:01:02"	Departure time from work location
pic	String		Targe Image base64 encoded data (within 1M)

e.g.1,Leave post monitoring:


```
{
    "operator": "LeaveSnapPush",
    "info": {
        "deviceId": "1006498",
        "time": "2023-10-19 09:21:13",
```

```
        "pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）"
        }
}
```

18. Upload helmet and reflective clothing not weared capture record

This interface is suitable for helmet and reflective clothing detection camera.

Key	Type	Values	Description
operator		Operation flag, ClothHelmetSnapPush	Push violation alarm snapshot; for helmet and reflective clothing detection camera.
deviceId	String		Network camera ID, distinguish each camera
time	String	"2022-09-28 17:18:40"	capture time
SnapOrRecordID	int		Capture ID, used in continuous transmission after network interruption
helmet	Int		Safety helmet 0: wearing 1:not wearing 2:not sure
reflectiveVest	Int		Reflective clothing 0: wearing 1:not wearing 2:not sure
pic	String		Target Image base64 encoded data (within 1M)
scene	String		sceneImage base64 encoded data (within 2M)

e.g.1, push a helmet and reflective clothing event snapshot

```
{
    "operator": "ClothHelmetSnapPush",
    "info": {
        "deviceId": "800600",
        "time": "2023-09-18 11:19:37",
        "SnapOrRecordID": "6",
        "helmet": 2,
        "reflectiveVest": 1,
        "pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）",
        "scene": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）"
        }
```

}

Take an image, select the scene image, and upload the "scene" information.

Take an image, select the target image, and upload the "pic" information.

Take an image, select the target image+scene image, and upload the "pic" and "scene" information.

19. Upload pyrotechnic event capture record

This interface is suitable for pyrotechnic monitoring camera.

Key	Type	Values	Description
operator		Operation Flag, FireSmokeSnapPush	Push pyrotechnic alarm snapshot; for pyrotechnic monitoring camera
deviceId	String		Network camera ID, distinguish each camera
deviceName	String		Network Camera Name
time	String	"2022-09-28 17:18:40"	capture time
SnapOrRecordID	int		Capture ID, used in continuous transmission after network interruption
fire	Int		Flame 0:None 1:Present 2: not sure
smoke	Int		Smoke 0:none 1:present 2:not sure
pic			Image base64 encoded data (within 1M)

e.g.1, push a pyrotechnic event snapshot:

{
"operator": "FireSmokeSnapPush".
"info":{
"deviceId": "005a213b000b93cc",
"deviceName": "ipc758732",
"time": "2022-09-28 17:18:40",
"SnapOrRecordID": 1689962595.
"fire":1.
"smoke":2.
"pic":
""

```
}
```

}

Take an image, select the scene image, and upload the "scene" information.

Take an image, select the target image, and upload the "pic" information.

Take an image, select the target image+scene image, and upload the "pic" and "scene" information.

20. Manually push and report personnel identification records

The manual push control record interface is mainly used to solve the problem of lost control records reported by the authentication and Upload personnel identification record due to server-side reasons. By manually setting the interface again, the all-in-one machine actively uploads the authentication results within the time period through the authentication subscription topic mqtt/face/ID/Rec (where ID refers to the local ID, such as 1305433) to the server. This interface needs to ensure that it is connected to the server and that the recognition record subscription is enabled. This interface is a mandatory push to search for control records, regardless of whether the network interruption and continuation mode is used, which has no impact on this interface. The control records uploaded through this interface do not require a server reply. At the same time, it should be noted that the data reported by this interface may be saved multiple times by the server due to the same record being reported to the server before. The "PushType" in the upload of Upload personnel identification record record can distinguish whether it is a Manually push and report personnel identification records.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		ManualPushRecords/ ManualPushRecords-Ack	ManualPushRecords:Set up manual push and report personnel identity records ManualPushRecords-Ack：Set up manual push and report personnel identity record return
info			concrete content

facesluiceId	String (optional)		Facial recognition all-in-one machine ID. If specific key values are passed in, the matching machine will be specified for execution. If not passed in, all machines subscribed to the same topic will be executed. It is
			recommended to specify a single machine for execution
TimeS	string	YYYY-MM-DD hh:mm:ss	The start time of the control record that needs to be pushed. e.g., 2020-07-29T21:50:05
TimeE	string	YYYY-MM-DD hh:mm:ss	The end time of the control record that needs to be pushed. e.g., 2020-07-29T21:50:05
Name	string (optional)		Control records that match accurate names (reserved)
RecordNum	int (optional)		Total number of matched control records (return value), 0: No matching data found

20.1. Set up manual push and report personnel identity records

e.g.1,Set up manual push and report personnel identity records

```
{
    "operator": "ManualPushRecords",
    "messageId":  "ID:localhost-637050888589478689:44009:24:40",
    "info": {
            "facesluiceId": "1006498",
            "TimeS": "2023-09-22 00:00:00",
            "TimeE": "2023-09-22 23:59:59",
            "Name": ""
    }
}
```

20.2. Set up manual push and report personnel identity record return

e.g.1,Set up manual push and report personnel identity record return

```
{
    "messageId":  "ID:localhost-637050888589478689:44009:24:40",
    "operator": "ManualPushSnaps-Ack",
```

```
        "info": {
                "facesluiceId": "1006498",
                "RecordNum": 17,
                "result": "ok"
        }
}
```

21. Manually push and report stranger capture record

The anually push and report stranger capture record is mainly used to solve the problem of lost control records reported by the Upload personnel stranger record due to server-side reasons. By manually setting the interface again, the all-in-one machine actively uploads the stranger capture records during the time period to the server through the topic mqtt/face/ID/Snap (where ID refers to the local ID, such as 1305433) subscribed by the stranger. This interface needs to ensure that it is connected to the server and that stranger subscriptions are enabled. This interface is mandatory to push the captured records of strangers found during search, regardless of whether the network interruption and continuation mode is used, which has no impact on this interface. The captured records of strangers uploaded through this interface do not require a server reply. At the same time, it should be noted that the data reported by this interface may be saved multiple times on the server due to the same record being reported to the server before. The PushType in the Upload personnel stranger record strangers can distinguish whether it is a manually pushed control record.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		ManualPushSnaps/ ManualPushSnaps-Ack	ManualPushSnaps:Set up manual push and report on stranger capture records ManualPushSnaps-Ack：Set up manual push and report of stranger capture records return
info			concrete content
facesluiceId	String (optional)		Facial recognition all-in-one machine ID. If specific key values are passed in, the matching machine will be specified for execution. If not passed in, all machines subscribed to the same topic will be executed. It is recommended to specify a single machine for execution
TimeS	string	YYYY-MM-DD hh:mm:ss	The start time of the control record that needs to be pushed. e.g., 2020-07-29T21:50:05
TimeE	string	YYYY-MM-DD hh:mm:ss	The end time of the control record that needs to be pushed. e.g., 2020-07-29T21:50:05

RecordNum	int (optional)		Total number of matched control records (return value), 0: No matching data found

21.1. Set up manual push and report on stranger capture records

e.g.1,Set up manual push and report on stranger capture records

```
{
    "operator": "ManualPushSnaps",
    "messageId":  "ID:localhost-637050888589478689:44009:24:40",
    "info": {
            "facesluiceId": "1006498",
            "TimeS": "2023-09-22 00:00:00",
            "TimeE": "2023-09-22 23:59:59"
    }
}
```

21.2. Set up manual push and report of stranger capture records return

e.g.1,Set up manual push and report of stranger capture records return

```
{
    "messageId":  "ID:localhost-637050888589478689:44009:24:40",
    "operator": "ManualPushSnaps-Ack",
    "info": {
        "facesluiceId": "1006498",
        "RecordNum": 17,
        "result": "ok"
    }
}
```

22. Target quantity statistics parameter settings

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		TargetCountStatsCfg/TargetCountStatsCfg-Ack	TargetCountStatsCfg:Target quantity statistics parameter settings TargetCountStatsCfg-Ack:Target

			quantity statistics parameter setting return
messageId	String		Message ID, distinguish each message
deviceId	String		Webcam ID, distinguish each machine
enable	Int		Enable headcount function: 0: No, 1: Yes
autoResetMode	Int		Auto reset, 0: No, 1: Daily, 2: Weekly, 3: Monthly
resetDay	Int		The day of automatic reset, “byAutoResetMode” is 2, indicating the day of the week 0-6, is 3, indicating the date 1-31
resetTime	String	hh:mm:ss	Automatic reset time e.g.,23:59:59

22.1. Target quantity statistics parameter settings

e.g.1,Target quantity statistics parameter settings

```
{
"operator": "TargetCountStatsCfg",
"messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
"info": {
        "deviceId": "1006498",
        "enable":1,
        "autoResetMode": 1,
        "resetDay": 0,
        "resetTime": "23:59:59"
        }
}
```

22.2. Target quantity statistics parameter setting return

e.g.1,Target quantity statistics parameter setting return

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "TargetCountStatsCfg-Ack",
    "code": "200",
    "info": {
            "deviceId": "1006498",
            "result": "ok"
```

```
    }
}
```

23. Reset settings for target quantity statistics

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator		TargetResetCount/TargetResetCount-Ack	TargetResetCount:Reset settings for target quantity statistics TargetResetCount-Ack:Reset the target quantity statistics settings and return
messageId	String		Message ID, distinguish each message
deviceId	String		Webcam ID, distinguish each machine

23.1. Reset settings for target quantity statistics

e.g.1,Reset settings for target quantity statistics

```
{
    "operator": "TargetResetCount",
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "info": {
    "deviceId": "1006498"
        }
}
```

23.2. Reset the target quantity statistics settings and return

e.g.1,Reset the target quantity statistics settings and return

```
{
    "messageId": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX",
    "operator": "TargetCountStatsCfg-Ack",
    "code": "200",
    "info": {
        "deviceId": "1006498",
```

"result": "ok"
}
}

24. Upload area head count data

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator	char	CountInRegionPush	Upload area head count data
deviceId	char		Webcam ID, distinguish each machine
time	char	YYYY-MM-DDThh:mm:ss	Capture time。e.g., 2018-03-25T21:50:05
realtimeCount	int		Real time flow of people
averageCount	int		Average number of people in the cycle
maxCount	int		Maximum number of people in the cycle

e.g.1,Upload Area head count data

{
"operator": "CountInRegionPush",
"info": {
"deviceId": "785730",
"time": "2023-11-06 16:26:01",
"realtimeCount": 0,
"averageCount": 0,
"maxCount": 0,
"minCount": 0
}
}

25. Upload vehicle attributes

This operation is applicable to equipment for identifying personnel, vehicles, and non motorized vehicles in special customized versions.

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator	char	CatAttrSnapPush	Upload vehicle attributes
deviceId	char		Webcam ID, distinguish each machine
time	char	YYYY-MM-DD hh:mm:ss	Capture time。 e.g., 2023-12-19 18:12:23
objectType	int		Target type: 1: Vehicle
behaviorType	int		Behavior type: 0: Wire intrusion
behaviorDirection	int		Direction: 0: From left to right 1: From right to left
carColor	int		Vehicle color: 0: Other 1: Black 2: Blue 3: Brown 4: Green 5: Silver 6: White 7: Red 8: Yellow 9: Pink 10: Purple 11: cyan 12: Grey 13: Gold
carClass	int		Vehicle type: 0: Other 1: Sedan 2: SUV 3: Business vehicle 4: Small truck 5: Large truck 6: Light passenger vehicle 7: Small bus 8: Large bus 9: Tricycle 10: Minivan 10:Microvan 11:pickup truck 12:trailer 13:Concrete special vehicle 14:tanker 15:crane truck 16:fire engine 17:Pulling soil truck 18:Escort vehicle 19:Engineering emergency repair vehicle20:Rescue vehicle 21:Fence truck 24:tracto
carSpecial	int		Special vehicles: 0: Non special vehicles 101: Military vehicles 102: Training vehicles 103: Police vehicles 105: Fire trucks 106: School buses 107: Taxi 110: Ambulance 111: Escort truck 113: Express truck 114: Dangerous goods transport vehicle 115: Environmental sanitation vehicle 116: Engineering repair vehicle 117 Rescue vehicle
carBackup	int		spare tire: 0: Other 1: No spare tire 2: There is a spare tire

carViewpoint	int		orientation: 0: None 1: Front 2: Rear 4: Side
carplateColor	int		License plate color:
			0: Other 1: Yellow 2: Blue 3: Black 4: White 5: Green 6: Yellow Green 7: Gradient Green
carplateFlag	int		License plate emblem: 0: No license plate 1: Single row license plate 2: Double row license plate 3: New Energy 4: False Detection 5: License Plate Too Small 6: No license plate detected 7: License plate obstruction (human error) 8: Incomplete license plate (non-human) 9: Partial obstruction of license plate (artificial)
carplate	char		license plate number
pic	char		Target Image base64 encoded data (within 1M)

carplateType	int		License plate type: 1: Large car license plate (yellow background with black text) 2: Small car license plate (blue background with white letters) 3: Embassy car license plate (black background with red letters) 4: Consulate car license plate (black background with red letters) 5: Overseas car license plate (black background with red text) 6: Foreign car license plate (black background with white text) 7: Two, three wheeled motorcycle license plate (yellow background with black letters) 8: Light motorcycle license plate (blue background with white letters) 9: Embassy motorcycle license plate (black background with red letters) 10: Consulate motorcycle license plate (black background with red letters) 11: Overseas motorcycle license plate (black background with white text) 12: Foreign motorcycle license plate

			(black background with white text) 13: Agricultural transport vehicle license plate (yellow background with black letters) 14: Tractor license plate (green background with white letters) 15: Trailer license plate (yellow background with black text) 16: Coach car license plate (yellow background with black text) 17: Coach motorcycle license plate (yellow background with black text) 18: Test car license plate (yellow background with black text) 19: Test motorcycle license plate (yellow background with black text) 20: Temporary human border vehicle license plate (white background with red text) 21: Temporary pedestrian motorcycle license plate (white background with red text) 22: Temporary driving license plate (white background with black text) 23: Police car license plate (white background with red letters) 24: Police motorcycle license plate (white background with red text) 26: Hong Kong inbound and outbound vehicles (black background with white text) 27: Macau inbound and outbound vehicles (black background with white text) 31: Armed Police License Plate (white background with red text) 32: Military license plate (white background with red letters) 34: Small scale new energy 35: Large scale new energy 99: Other license plates

e.g.1,Upload vehicle attributes

{
"operator": "CatAttrSnapPush",
"info": {
"deviceId":"18974",
"time":"2023-12-19 18:12:23",
"objectType":1,
"behaviorType":0,
"behaviorDirection":1,
"carClolr":6,
"carClass":2,
"carSpecial":0,
"carBackup":0,
"carViewpoint":0,
"carplateColor":2,
"carplateType":2,
"carplateFlag":1,
"carplate":"浙 B00QS9",
"pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）"}
}

26. Uploading safe riding incidents

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator	char	SafetyRidePush	Uploading safe riding incidents
deviceId	char		Webcam ID, distinguish each machine
time	char	YYYY-MM-DD hh:mm:ss	Capture time。e.g., 2023-12-27 16:11:54
helmet	int		Wearing a helmet: 0: No 1: Yes
plate	char		Electric bicycle license plate number
pic	char		Target Image base64 encoded data (within 1M)

e.g.1,Uploading safe riding incidents

{
"operator": "SafetyRidePush",
"info": {

"deviceId": "785730",
"time": "2023-12-27 16:11:54",
"helmet": 0,
"plate": "5000J",
"pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）"
}
}

27. Electric bicycle capture information upload

Parameter information (Note: the field not marked optional is required)

Key	Type	Values	Description
operator	char	ElectricalBicycleSnapPush	Electric bicycle capture information upload
deviceId	char		Webcam ID, distinguish each machine
time	char	YYYY-MM-DD hh:mm:ss	Capture time。e.g., 2023-12-27 16:11:54
SnapOrRecordID	int		Capture ID, use when restoring transmission after network recovery
pic	char		Target Image base64 encoded data (within 1M)
scene	char	optional	Scene Image base64 encoded data (within 2M)

e.g.1,Electric bicycle capture information upload

{
"operator": "ElectricalBicycleSnapPush",
"info": {
"deviceId": "1001336",
"time": "2024-06-24T09:56:15",
"SnapOrRecordIDe": "250",
"pic": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 1M）",
"scene": "data:image/jpeg;..... （Fill in the image base64 encoded data, within 2M）"
}
}

28. Electric spark high temperature event capture is uploaded

This interface is suitable for three-spectral and dual-spectral cameras.

Key	Type	Values	Description
operator		TemHighSnapPush	TemHighSnapPush:Electric spark high-temperature event capture and push;
deviceId	String		Webcam ID, distinguish each machine
deviceName	String		Network Camera Name
snapTime	String	"2023-02-14 11:01:02"	Capture time
sparkAlarm	Int		Spark alarm: 0: No，1：Yes 2: Yes and only spark alarm
tempeunit	Int		0: degree Celsius 1:Fahrenheit (triple spectral support)
message	Arary[]		When “sparkAlarm”=2, there is no “message” array
message.areaId	Int		区域 ID
message.messageType	Int		Message Type 0: Temperature monitoring (three-spectral support)
message.alarmType	Int		Message type 0: early warning 1: give an alarm
message.temRise	Int		Temperature rise: 0: No， 1: Yes (three-spectral support)
message.durationTime	Int		Duration duration (continuous alarm duration) Unit: seconds
message.temRiseDuration	Int		Temperature rise duration, Unit: seconds
message.temperature	Float		temperature,unit:℃ (three-spectral support)
pic	String		base64 Code of the picture (within 1M)
tempic	String		base64 code of thermal imaging images (within 1M)（three-spectral support）

e.g.1,Dangerous high temperature alarm event capture push report:

{

```
"operator": "TemHighSnapPush",
"info": {
        "deviceId": "005a213b000b93cc",
        "deviceName": "IPC758732",
        "snapTime": "2023-02-14 11:01:02",
        "sparkAlarm": 0,
        "message": [
                {
                    "areaId": 0,
                    "messageType": 0,
                    "alarmType": 0,
                    "temRise": 0,
                    "durationTime": 30,
                    "temRiseDuration": 5,
                    "temperature": 32.5
                    }
                ],
    "pic": "",
    "tempic": ""
    }
}
```


29. *Appendix

29.1. Error codes for adding or modifying personnel list

code	Type	String	Description
200	int		The operation was successful.
460	int	"Data out of range"	Single packet data more than 1M
461	int	"can't find customId"	Failed to get keyword 'customid'
462	int	"Parameter error"	Failed to get keyword 'info'
463	int	"pic base64 data decode err"	Base64 data decoding failed
464	int	"Get pic Person Feature err, please change a pic"	Face feature extraction failed
465	int	"other"	Database operation failed
466	int		reserve
467	int	"Person num is full"	The list database is full
468	int	"get URI pic data len too short"	Image data get from the URI is less than 1000 bytes

469	int	"get URI pic data len too long"	Image data get from the URI is more than 1M (picture pixels are limited to 1080p)
470	int	"get URI server ip error"	Failed to resolve the server address of the Picture url
471	int	"get pic and connect URI IP error"	Get the image from URI timed out or download the image failed. (note whether the DNS of the device is correct)
472	int	"get pic and get URI error"	The keyword "pic" was not passed in and the keyword "picuri" was not passed in

29.2. Error code for querying detailed information of single personnel list

code	Type	String	Description
460	int	"Data out of range"	Single packet data more than 1M
461	int		reserve
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Parameter customId error"	Failed to get keyword "customId".
464	int	"can't find customId's person"	Query matching list failed

29.3. Error codes for multi person list query error code

code	Type	String	Description
460	int	"Data out of range"	Single packet data more than 1M
461	int		reserve
462	int	"Parameter error"	Failed to get keyword "info".
465	int	"Unknow facesluiceId"	"Facesluiceid" matching failed
466	int	"can not find person"	Query matching list failed

29.4. Error codes for deleting single personnel list

code	Type	String	Description
200	int		The operation was successful.
461	int	"can't find customId"	Failed to get keyword "customId".
462	int	"Parameter error"	Failed to get keyword "info".
464	int	"can't find customId's person"	Query matching list failed

29.5. Error codes for deleting all personnel list

code	Type	String	Description
460	int	"Data out of range"	Single packet data more than 1M
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Parameter deleteall error"	Failed to get keyword "deleteall".

29.6. Error codes for batch addition of personnel (URI)

Code refers to the error code for the whole command execution, and errCode refers to the error code for every single operation in batch operation.

code	Type	String	Description
410	int	"AddPersons is busy"	The batch addition function is busy. The last batch addition instruction has not been completed
411			reserve
412	int	"can not find DataBegin"	Failed to get keyword "DataBegin".
413	int	"can not find DataEnd"	Failed to get keyword "DataEnd".
414	int	"Parameter error"	Failed to get keyword "info".
415	int	"can not find PersonNum"	Failed to get keyword "PersonNum".
416	int	"PersonNum out of range"	The total number of lists exceeds the maximum of 1000
417	int	"json of person's data is not equal PersonNum"	The size of JSON array lists obtained is different from the value of PersonNum
418	int	"can not find info"	Failed to get keyword "info".
460	int	"Data out of range"	Single packet data more than 1M

errcode	Type	String	Description
461	int		customId already exists
462	int		RFIDCard already exists, (built-in swipe card model)
463	int		Failed to get picURI keyword
464	int		Failed to resolve the server address of the Picture uri
465	int		Get the image from URI timed out or download the image failed (pay attention to whether the DNS of the device is correct)
466	int		Failed to get image data content from URI

467	int		Image data is too large, more than 1M (image pixels are limited to 1080P)
468	int		Failed to extract facial features from images
469	int		Write image data to Database failed
470	int		Write list data to Database failed
471	int		reserve
472	int		reserve
473	int		reserve
474	int		reserve
478	int		The similarity between the personnel picture and the personnel database picture is too high (the personnel picture already exists)

29.7. Error codes for batch deletion of personnel list

Code refers to the error code for the whole command execution, and errCode refers to the error code for every single operation in batch operation.

code	Type	String	Description
410	int		reserve
411	int		reserve
412	int	"can not find DataBegin"	Failed to get keyword "DataBegin".
413	int	"can not find DataEnd"	Failed to get keyword "DataEnd".
414	int	"Parameter error"	Failed to get keyword "info".
415	int	"can not find PersonNum"	Failed to get keyword "PersonNum".
416	int	"PersonNum out of range"	The total number of deleting lists exceeds the maximum of 200
417	int	"json of person's data is not equal PersonNum"	The size of JSON array lists obtained is different from the value of PersonNum
418	int	"can not find customId"	Failed to get keyword "customId"

29.8. Error codes for batch adding or modifying personnel(URI)

Code refers to the error code for the whole command execution, and errCode refers to the error code for every single operation in batch operation..

code	Type	String	Description

410	int	"EditPersonsNew is busy"	The batch adding or modifying function is busy. The last batch adding or modifying instruction has not been completed
411			reserve
412	int	"can not find DataBegin"	Failed to get keyword "DataBegin".
413	int	"can not find DataEnd"	Failed to get keyword "DataEnd".
414	int	"Parameter error"	Failed to get keyword "info".
415	int	"can not find PersonNum"	Failed to get keyword "PersonNum".
416	int	"PersonNum out of range"	The total number of lists exceeds the maximum of 1000
417	int	"json of person's data is not equal PersonNum"	The size of JSON array lists obtained is different from the value of PersonNum
418	int	"can not find data"	Failed to get keyword "data"
460	int	"Data out of range"	Single packet data more than 1M

errcode	Type	String	Description
461	int		Failed to get customId
462	int		reserve
463	int		reserve
464	int		Failed to resolve the server address of the image
465	int		Get the image from URI timed out or download the image failed (pay attention to whether the DNS of the device is correct)
466	int		Failed to get image data content from URI
467	int		Image data is too large
468	int		Failed to extract facial features from images
469	int		Failed to write image data to database
470	int		reserve
471	int		reserve
472	int		reserve
473	int		reserve
474	int		Device list is full
478	int		reserve
479	int		Failed to modify person list information
481	int		Failed to get picURI keyword
482	int		Failed to read pictures of existing people

29.9. Error codes for setting MQTT reporting parameter

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".

29.10. Error codes for setting sound and display parameter

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".

29.11. Error codes for setting system time

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Can't find SysTime"	Failed to get keyword "SysTime".

29.12. Error codes for capture a scene snapshot image

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Unknow facesluiceId"	"Facesluiceid" matching failed.
11000	int	"Shoot one picture fail"	The snap scene map failed.

29.13. Error codes for set up manual push and report personnel identity records

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Unknow facesluiceId"	"Facesluiceid" matching failed.
464	int	"Unknow TimeS"	Failed to get "TimeS" keyword.
465	int	"Unknow TimeE"	Failed to get "TimeE" keyword.

466	int	"Can't Find any record issue, please check TimeS and TimeE"	No matching control records are available.
467	int	"Unknow RecordUploadType"	This interface needs to subscribe to the Identification Record to upload.

29.14. Error codes for set up manual push and report on stranger capture records

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Unknow facesluiceId"	"Facesluiceid" matching failed.
464	int	"Unknow TimeS"	Failed to get "TimeS" keyword.
465	int	"Unknow TimeE"	Failed to get "TimeE" keyword.
466	int	"Can't Find any snap issue, please check TimeS and TimeE"	No matched stranger capture records.
467	int	"Unknow StrangerUploadType"	This interface needs to subscribe to the "stranger" upload first.

29.15. Error codes for target quantity statistics parameter settings

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"Unknow deviceId"	"Facesluiceid" matching failed.
22000	int	"Unknow enable"	Failed to get "enable" keyword.
22001	int	"Unknow autoResetMode"	Failed to get "autoResetMode" keyword.
22002	int	"Unknow resetDay"	Failed to get "resetDay" keyword.
22003	int	"Unknow resetTime"	Failed to get "resetTime" keyword.
22004	int	"Set TargetCountStatsCfg fail"	Target quantity statistics parameter setting failed.

29.16. Error codes for reset settings for target quantity statistics

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".

463	int	"Unknow deviceId"	"Facesluiceid" matching failed.
23000	int	"Set TargetResetCount fail"	Target quantity statistics reset setting failed.

29.17. Error codes for electric spark high temperature event alarm elimination

code	Type	String	Description
462	int	"Parameter error"	Failed to get keyword "info".
463	int	"can not find EliminateTime"	Failed to get keyword "EliminateTime".